INDEX FOR ASSESSMENT OF NEVADA'S PROGRAM

1. Nevada's program contains explicit short and long term goals, objectives and strategies to protect surface and ground water.

2. Nevada strengthens its working partnerships and linkages with appropriate State, Tribal, regional and local entities (including Conservation Districts), private sector groups, citizen groups and Federal agencies.

3. Nevada uses a balanced approach that emphasizes both State-wide nonpoint source programs and on-the-ground management of individual watersheds where waters are impaired and threatened.

4. Nevada's program (a) abates known water quality impairments from nonpoint source pollution and (b) prevents significant threats to water quality from present and future activities.

5. Nevada's program identifies waters and their watershed impaired by nonpoint source pollution and identifies important unimpaired waters that are threatened or otherwise at risk. Further, Nevada establishes a process to progressively address these identified waters by conducting more detailed watershed assessments and developing watershed implementation plans, and then by implementing the plans.

6. Nevada reviews, upgrades and implements all program components required by section 319(h) of the Clean Water Act and establishes flexible, targeted and iterative approaches to achieve and maintain beneficial uses of water as expeditiously as practicable. Nevada's programs include:

(A) A mix of water quality-based and/or technology-based programs designed to achieve and maintain beneficial uses of water; and
(B) A mix of regulatory, non-regulatory, financial and technical assistance as needed to achieve and maintain beneficial uses of water as expeditiously as practicable.

6.1. Nevada includes in its program and implements the following eight items:

Section

6.1.A. Identification of the measures to be used to control nonpoint sources of pollution, focusing on those measures which will be most effective to address the specific types of nonpoint source pollution prevalent within the State. These measures may be individually identified or presented in manuals or compendiums, provided that they are specific and are related to the categories or subcategories of nonpoint sources. They may also be identified as part of a watershed approach towards achieving water quality standards, whether locally, within a watershed, or State-wide..... V

6.1.B. Identification of programs to achieve implementation of the measures..... IV

6.1.C. Processes used to coordinate and, where appropriate, integrate various programs used to implement nonpoint source controls in the State..... IV

6.1.D. A schedule with goals, objectives, and annual milestones for program implementation; legal authorities to implement the program; available resource; and institutional relationships..... III

6.1.E. Attorney General certification (if program is changed substantially)..... 1992 SMP

6.1.F. Sources of funding from Federal (other than 319), State, local, and private source..... App.3

6.1.G. Identification of Federal programs and projects that Nevada will review for their effects on water quality and their consistency with the State program.....VII & App.3

6.1.H. Monitoring and other evaluation programs to help determine short and long term program effectiveness..... IV&VIII

6.2. Nevada's program also incorporates or cross-references existing baseline requirements established by other applicable Federal aor State laws to the extent that they are relevant. Examples include but are not limited to:

Section/Page

6.2.A. Approved State coastal nonpoint source pollution programs required by section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)..... NA

6.2.B. State Forest Management Practices Acts..... IV

6.2.C. State construction, erosion or nutrient management laws..... NA

6.2.D. Federal or State transportation laws which govern construction site or maintenance runoff..... IV

7. Nevada identifies Federal lands and activities which are not managed consistently with State nonpoint source program objectives. Where appropriate, the State seeks EPA assistance to help resolve issues.

8. Nevada manages and implements its nonpoint source program efficiently and effectively, including necessary financial management.

9. Nevada periodically reviews and evaluates its nonpoint source management program using environmental and functional measures of success and revises its nonpoint source assessment and its management program at least every five years.

IV. Nonpoint Source Program Implementation

This chapter outlines the mechanisms that Nevada uses to implement the NPS program. Nonpoint source pollution contribution is addressed through the implementation of complementary regulatory and non-regulatory components. Building partnerships and the collaboration efforts are major mechanisms to achieve improved water quality. Some of the nonpoint source program implementation tools address prevention of pollution, such as the educational strategies. Other tools address source reduction activities and pollution control activities, such as implementation of BMPs and development of Total Maximum Daily Loads (TMDLs). Mostly, nonpoint source strategies are implemented with the combination of several tools, addressing a variety of sources which can potentially impact a large area. As often as possible and feasible, several water quality-related issues are addressed in a coordinated manner, within NDEP: the establishment of water quality standards, watershed and ground water assessments, and the development of TMDLs. In the future, when NDEP has implemented watershed modeling capability, this will also be coordinated with the other activities.

Nevada's NPS program relies on water quality data gathered from NDEP's statewide ambient water quality monitoring program as well as data from several other collaborators (see Chapter II, page II-3 for more detail). Data analyses and assessments are compiled in *Nevada's Water Quality Assessment 305(b) Report*. Water bodies that need additional work beyond existing controls to achieve and maintain water quality are placed in the 303(d) list. The additional work necessary includes the establishment of TMDLs, which is a process that provides an analytical framework to identify the relative contributions of each pollutant and its causes and sources. The process to establish TMDLs is currently undergoing some modifications nationwide and in Nevada. Historically only point sources participated in the process. But because the major contribution of pollution is coming from nonpoint sources, there is an effort currently in Nevada to incorporate these sources into the TMDL process. Within this same context, Nevada is also developing/acquiring modeling capabilities to be able to incorporate data at the watershed level.

A. NPS Program Implementation Tools -- (Key Element #6)

A.1. Regulatory Tools

Although Nevada's Nonpoint Source program is largely non-regulatory, the following regulatory/enforcement authority provides an option for situations where non-regulatory approaches are not effective. The Federal regulatory authority is found in the Federal Water Pollution Control Act, 1987 Amendments (CWA). Several other sections of the CWA support the development of comprehensive nonpoint source programs. For a brief description of the CWA sections as they pertain to the NPS program, please see Chapter VI.

The State regulatory authority for Nevada's NPS program is based substantially in the following State Statutes. Nevada Revised Statutes (NRS) 445A.335 defines diffuse source as "any source of water pollution which is diffused to the extent that it is not readily discernible and cannot be

confined to a discrete conveyance. This term is intended to be equivalent to the term 'nonpoint source' as used in federal statutes and regulations." NRS 445A.570 authorizes the State Environmental Commission to require control of nonpoint source pollution if a source is causing or contributing to the violation of a water quality standard. NRS 445A.565 covers the protection of surface waters of higher quality. If a discharge is planned from a diffuse source, NRS 445A.328 requires measures, methods of operation or practices which are reasonably calculated or designed to prevent, eliminate or reduce water pollution from the source. This statute also requires consideration of the circumstances of the particular place and reasonable consistency with the economic capability of the project or development. Normal agricultural rotation, improvement and farming practices are exempted. Finally, diffuse source violations and remedies are covered in NRS 445A.680. Enforcement authority in this statute allows NDEP (acting on behalf of the Director of the DCNR) to issue an order if a person violates any provisions of the above-cited statutes. The order specifies the statute(s) or regulation(s) violated, indicates the facts which constitute the violation, prescribes corrective action, which may include BMPs, and a reasonable amount of time to comply. Although civil or criminal penalties cannot be imposed, the Department is authorized to pursue injunction relief if corrective action is not taken or completed.

NDEP has a mechanism to address violations stemming from nonpoint source activities. The following steps have been identified as necessary to the process: to identify the sources which are suspected to be significant contributors of the violation of a water quality standard. Identification may be via NPS State's Assessment Report (SAR) investigation, special studies, watershed-based evaluations, and complaints from the public or from other agencies. NDEP would conduct an investigation and collect water quality samples to confirm the complaint. If investigations confirm that a source is significant an order of injunctive relief would be issued.

The development of TMDLs is becoming an important mechanism to integrate all sources and causes of pollution in a watershed management process. NDEP is using this mechanism to integrate the nonpoint sources of pollution in the calculation of pollutant loadings in the whole watershed. The effort will include gathering all the water quality and natural resources data (i.e. land use, vegetation and soil type, etc.), creating of a model for the analyses and identification of significant impairments. The process will also include involvement of all the interested stakeholders in the decision and implementation aspects of the process. After the initial analysis of the watershed and identification of sites that generate nonpoint sources of pollution, all the data gathered are incorporated in the calculations of TMDLs. NDEP is also planning to develop a pollution trading mechanism between nonpoint and point sources, with special emphasis on encouraging point sources to contribute resources to the implementation of nonpoint source pollution reduction, and obtain regulatory relief as a consequence. For more details on time frames and action items for integrating the development of TMDLs within the watershed management process, please see Chapter III, tables 1.a. through 1.h.

Using the TMDL process, prioritizing water bodies takes into account the severity of the pollution and the uses to be made of such waters. Targeting high priority waters for TMDL

development reflects an evaluation of the relative value and benefit of water bodies within the state and takes into consideration the following: 1) the risk to human and aquatic life; 2) the degree of public interest and support; 3) the recreational, economic and aesthetic importance of a particular water body; 4) the vulnerability or fragility of a particular waterbody as an aquatic habitat; and 5) the immediate programmatic needs such as waste load allocations, permits to be issued, new or expanding discharges and load allocations for needed BMPs.

A.2. Non-regulatory Tools

Nevada's Nonpoint Source program is voluntary, multifaceted, and is based on public education/outreach, technology transfer, implementation of Best Management Practices (BMPs) and demonstration projects. Successful implementation of the program requires broad-based public awareness, development of practical solutions and effective coordination among numerous federal, state, local and private entities. Nevada's nonpoint source program is implemented on a watershed basis with participation and collaboration of the local community. NDEP has developed and will continue to strengthen partnerships with several groups, such as technical advisory forces, informal community-based groups, educators, Indian governments, Coordinated Resource Management Planning (CRMPs) groups and interstate watershed task forces.

1) Educational Programs

Educational programs are the main tool that NDEP uses to prevent NPS pollution to enter the surface and ground waters. At the watershed and community levels, education outreach is accomplished through the implementation of education projects which address watershed specific issues and educate several targets audiences. The NPS program has established relationships with several technical experts and educators, such as UNR Cooperative Extension and Conservation Districts. Nevada Integrated Pest Management (IPM) program is implemented by UNR College of Agriculture, and is focused on educating farmers and home owners about using a multi-faceted way to control common pests, minimizing the use of pesticides; NDEP NPS program has provided financial assistance for the creation of this program in Nevada. Nevada Project WET (Water Education for Teachers), implemented by the DWR, is a statewide effort for which the NPS program has provided financial and technical assistance. It is mainly through these relationships that the educational component of the nonpoint source program is implemented. NDEP has allocated a significant amount of resources to the educational component of its nonpoint source program and will continue to do so.

NDEP is developing a general framework for educational programs for nonpoint source activities for the State. Initially the educational programs will be developed to address two priority NPS categories: agriculture and urban runoff. Agriculture-related educational programs will be implemented in two priority watersheds, the Truckee and Carson Rivers watersheds. Urban runoff-related educational programs will be implemented in the Tahoe Basin, in Clark County (North Las Vegas, Las Vegas and Henderson), and in Washoe County. The implementation of these efforts will be accomplished through 319 projects and with collaboration with UNR -

Cooperative Extension educators and others with similar education goals. For more details on time frames and action items to implement the educational component, see Chapter III, goal #2.

2) Coordinated Resource Management Plans (CRMPs)

Nevada uses the establishment and development of CRMPs as a tool for watershed management. CRMPs are developed with involvement of all interested stakeholders within the watershed. The process identifies issues and concerns, provides for local solutions and the implementation of solutions is accomplished with the cooperation and collaboration of all involved. This process ensures local empowering, fair and equitable actions, effective and efficient use of resources, and coordination of efforts amongst the different agencies or groups involved. The goals are to achieve better protection of the natural resources from nonpoint sources of pollution and improve the water quality. NDEP has allocated significant amounts of funds and staff resources to the establishment of CRMPs. Two sub-watersheds in Nevada have consolidated their efforts under CRMPs; three more are coordinating their efforts and activities, but still need to develop a CRMP. NDEP will continue to facilitate and encourage the efforts toward the development of CRMPs in all priority watersheds in the State. The development and implementation of the goals of the Coordinated Resource Management Plans will fulfill the requirements of the Clean Water Action Plan because the Watershed Restoration Action Strategies (WRAS) for each watershed have been developed based on the restoration goals of each watershed.

NDEP has facilitated the establishment of several watershed or sub-watershed groups, which address nonpoint source issues, either organized under a CRMP or some other kind of restoration plan. As the implementation of the NPS program becomes more effective and efficient, NDEP plans to facilitate and encourage the creation of more structured restoration plans, with the collaboration of local stakeholders, for each watershed. The goal is to have an active watershed management group in each priority watershed (or sub-watershed) in the State. For a list of the priority watersheds in the State, see Appendix 1. Refer to Chapter III, Goal #1, tables 1.a. through 1.h. for details. The following is a brief description of the level of effort that NDEP is focusing on each watershed.

Humboldt River Watershed -- This watershed covers a very large area of the state and has a wide range of NPS issues. Currently, there are several studies being conducted in this area, including one in collaboration with U.S.EPA. NDEP is conducting an extensive analysis of the watershed in order to provide NPS data for TMDL review and development, and to update the SAR for this watershed, concomitantly with the other studies. Once all the data are collected and analyzed, and the SAR is completed, NDEP plans to develop more specific strategies for this watershed. For example, NDEP plans to address NPS issues at the sub-watershed level, due to size and regional differences. In the meantime, NDEP is establishing working relationships with several stakeholders throughout the watershed. NDEP has implemented several 319(h) projects in this watershed, working with Conservation Districts, NRCS, BLM, USFS, cities, counties, and

several local ranchers. The 319(h) projects address riparian zone restoration, erosion control, grazing management, increase in vegetation cover, and uplands restoration. NDEP has also worked with the cities of Elko and Winnemucca. In Elko, the project addressed public education/outreach and storm water protection; stormwater drain stenciling was a component of this project. In Winnemucca, the issue was potential contamination of domestic wells. Although the watershed efforts are currently being developed, there is a significant amount of coordination with the TMDLs process. The final goal for this watershed is to establish several smaller regional CRMPs and NDEP will function as an "umbrella" organization to coordinate larger area issues, if needed.

Walker River Watershed -- This watershed involves only NPS issues, as there are no NPDES discharge permits here. NDEP is conducting an analysis in this watershed, in preparation for an update of the SAR for this watershed, which will be final in the year 2000. Some of the significant issues in this watershed are ensuring that the Walker River Paiute Tribe's concerns are addressed, the protection of terminal Walker Lake, erosion and invasive weeds. Currently, NDEP is funding several 319(h) projects, including one for the support of a coordinator. There is also an incipient stakeholder network, which needs to be strengthened. There are plans to develop a watershed coordinated restoration plan, starting in the year 2000.

Colorado River Watershed -- NDEP participates in a tri-state work group (Utah, Nevada and Arizona) that addresses inter-state issues related to the Colorado River. Also, NDEP has developed a strong relationship with several organizations within this watershed, such as the University of Nevada Cooperative Extension in Las Vegas and the Clark County Conservation District. NDEP participates in the Lake Mead Water Quality Forum, which is a group working to address water quality in Lake Mead. The formation of CRMPs in this watershed will be accomplished at the sub-watershed level for the Muddy and Virgin Rivers. Efforts in the Las Vegas Wash sub-watershed are described below.

The Las Vegas Wash Sub-watershed -- The Clark County 208 Water Quality Management Plan - Las Vegas Valley Part addresses specific nonpoint source issues in the valley such as the development and implementation of the Las Vegas Wash Wetlands Park. This sub-watershed is organized in a stakeholder group called the Las Vegas Wash Coordinating Committee; the team is assessing the NPS situation in this sub-watershed and is addressing issues of erosion control, sediment loadings and potential contamination of Lake Mead. NDEP has funded and is currently funding several 319(h) projects within this watershed, addressing public education and outreach, invasion of noxious weeds, storm drain stenciling, and wetlands construction. Future activities include coordination on the review and update of TMDLs for the Las Vegas Wash and Lake Mead, continuation of implementation of demonstration projects and participation with broad-based groups in the area.

Carson River Watershed -- For the purposes of NPS program implementation, this watershed is subdivided into three sub-watersheds. The three sub-divisions (Upper, Middle and Lower Carson River) have developed CRMPs. The three sub-watersheds have watershed coordinators

and have developed strong stakeholders network. The Middle Carson sub-watershed has taken a strong approach to involving the community in "Watershed Clean-up" days and all sub-watersheds are implementing restoration projects. NDEP has develop strong relationships with the stakeholders and local groups within this watershed, through the implementation of several 319(h) projects and funding of watershed coordinators. Currently, NDEP is working with a local "umbrella" entity (the Carson Water Sub-Conservancy District) in developing implementation strategies (WRAS) for the whole watershed, as part of the implementation phase of the Clean Water Action Plan.

Truckee River Watershed -- There are several efforts being coordinated within this watershed. NDEP and U.S.EPA are revising the TMDLs for the Truckee River, in conjunction with the Truckee Meadows Water Reclamation Facility (TMWRF)'s NPDES permit. Because of this, a tri-partnership group (consisting of Washoe County and the cities of Reno and Sparks) is developing a watershed model that will encompass the whole watershed, starting at the headwaters, at Lake Tahoe and ending at Pyramid Lake, a terminal lake. The development of the watershed model is bringing a diverse group of stakeholders together, who meet on a regular basis and provide input in a wide range of issues, including nonpoint source.

Steamboat Creek Sub-watershed -- The Steamboat Creek sub-watershed, a major tributary and the main contributor of nonpoint source pollution to the Truckee River, has develop several steps toward watershed management: a watershed management plan based on fluvial geomorphological analyses, the hiring of a watershed coordinator, establishment of regular meetings and they have gained a U.S.ACOE's Nationwide 27 permit. The water quality data from Steamboat Creek are being incorporated into the watershed model mentioned above. The model will be used, among other things, to identify and prioritized the nonpoint source impacts. NDEP is considering establishing a mechanism for pollutant trading between the point source (TMWRF) and nonpoint sources. NDEP will use the lessons learned in this watershed for coordinating nonpoint source and TMDL development processes in the establishment of the same processes in other priority watersheds. NDEP will continue to strengthen the implementation of the CRMP objectives in this watershed.

Lake Tahoe Basin -- NDEP is very involved in the protection of the water quality in Lake Tahoe, working closely with TRPA. TRPA has developed, as part of Lake Tahoe Basin's 208 Plan, an extensive environmental management plan, the Environmental Improvement Program (EIP). The EIP provides the framework for all the environmental improvement activities in the basin, including an assessment of the NPS situation. NDEP is reviewing the water quality and stream restoration portion of the program as part of the restoration action strategies phase of the Clean Water Action Plan. In the future, NDEP will continue to participate in the strengthening of the implementation of the management plan objectives in this basin, and to coordinate these effort with the development of any necessary TMDLs.

3) 319 Implementation Projects

Nonpoint Source demonstration projects are implemented to address priority NPS categories, either statewide or in priority watersheds. Implementation projects are designed to reduce NPS pollution, educate the public, conduct technology transfer and strengthen the voluntary implementation of best management practices. Project selection is competitive, starting with the distribution of a request for proposals in late May or early June. Proposals are due to NDEP in early August and reviewed with the help of the interagency Nevada Ecosystem Advisory Team (NEAT). NPS program staff make the final selections by December and then negotiate detailed contract agreements for the transfer of 319(h) funds. NDEP will continue to implement 319(h) demonstration projects in the future. NDEP is increasing some requirements for project implementation. For example, NDEP will request the inclusion of methods for measuring project effectiveness, either monitoring or some other measurements of appropriate indicators. NDEP will also be increasing the requirements to evaluate results from implementation of the BMPs. In the case of educational projects, NDEP will be requiring the use of pre- and post-program surveys.

4) Federal Lands

NDEP has formalized MOUs or MOAs with the BLM, USFS and NRCS. NDEP and NRCS work very closely in managing the natural resources and protecting water quality, especially when implementing projects on agricultural lands and for controlling erosion. NDEP is developing plans to coordinate watershed protection more closely with the other Federal partners. These efforts will be accomplished through regular meetings, review of the 303(d) listed waters in relation to federal lands, and joint development of strategies to address the water quality impairments. Also, NDEP will increase its efforts in identifying NPS issues on Federal lands and developing plans, with the appropriate Federal agency, to address the problem.

Nonpoint source issues on U.S. Department of Energy and U.S. Department of Defense lands are managed within NDEP's Bureau of Federal Facilities (BFF). Nevada's NPS program is planning to coordinate, in a more effective manner, the NPS issues with the BFF.

B. Approaches to Achieving the NPS Program Goals -- (Key Element #3)

Goal #1 -- In order to achieve a downward trend in water quality impacts due to nonpoint sources, NDEP has developed strategies to prevent, control and abate pollution loads. The first step in achieving the goal of improved water quality due to nonpoint sources of pollution is to assess the waters of the state for water quality impairments. The State uses Nevada's Water Quality Assessment 305(b) Report as the basis for the assessment, specifically using information from the 303(d) list of impaired waters. The report also contains information on potential sources and causes of pollution, which is used to focus the program's efforts. The State also uses other sources of information to assess water quality impairments; water quality data gathered from the ambient monitoring program, from other programs and from special studies are entered into STORET. These data are analyzed for water quality trends and for identification of potential problem areas. New information is also used to update existing assessments. NDEP is planning to develop watershed modeling capabilities, in-house and through contracting outside expertise,

in order to generate better quality analyses.

The next step is to prioritize the waters of the State. For the purposes of the nonpoint source program, the waters of the State are prioritized within the context of the whole surrounding watershed. Several factors are used for prioritizing the watersheds. First, watersheds that contain impaired, 303(d) listed waters, are considered higher priorities. Watersheds or sub-watersheds (such as the headwaters of several of Nevada's major rivers) that contain waters that have been classified as Higher Quality Waters (HQWs) are also considered high priority. NDEP prioritizes the waters of the State in a collaborative manner, with input from Federal, State and local agencies and the public in general; the issues and concerns that the different agencies or individuals have are taken in consideration. This input is significant in situations where there is knowledge of site-specific issues, for example a beneficial use that is not being supported or loss of habitat. As more data and better analyses are generated, the prioritization process will be revised.

The nonpoint source categories have also been prioritized statewide, in terms of which activities generate the most nonpoint source pollution, disturb the natural landscape and affect the greater number of people. They are agriculture, hydrologic modifications, urban runoff and construction (especially near water bodies). In order to address the nonpoint sources of pollution, Nevada can implement water quality-driven and technology-based activities. The technology-based activities are described in the Handbook of Best Management Practices, which the State has developed to address all categories of nonpoint source pollution; the Handbook is reviewed on a regular basis and updated as needed.

Water quality-driven activities are specific to each watershed and address the impairments that prevent the waters within the watershed from meeting water quality standards according to the beneficial uses. Source categories of pollution are prioritized by stakeholders in each watershed so that specific characteristics and issues are addressed; watershed management activities are organized under a comprehensive resource management plans (CRMP). The NPS program has a goal of developing watershed management plans, or CRMPs, for all the priority watersheds (for a complete list of the priority watersheds in the State, see Appendix 1) in the State, within the next fifteen years. The CRMPs that have already been developed and are currently being implemented also undergo regular update and revision, and serve as a model for the other watersheds. At the watershed level, NDEP functions as facilitator to initially bring the stakeholders together, provide funds for the technical component (usually a fluvial geomorphological study), and ensure that the goals of the NPS program are met. NDEP keeps the watershed efforts flexible, so that site-specific concerns and issues can be addressed more effectively.

The following watersheds or sub-watersheds currently have active CRMP groups or other watershed group working on the assessment of the nonpoint source situation: Truckee River, Steamboat Creek, Lake Tahoe Basin, Carson River, and Las Vegas Wash. NDEP is taking a lead on the nonpoint source assessments for the Walker and Humboldt Rivers, through the SAR

process. Within the next five years, NDEP will consolidate and strengthen the current CRMPs and finalize the on-going SARs. These efforts will also be coordinated with the development of TMDLs for the 303(d) listed; watershed modeling capacities are being incorporated in the assessment processes. At the end of the first five years, the successes and failures of these watershed efforts will be evaluated and the UWA strategies will be revised and updated, as necessary. Water quality improvements will be evaluated, concomitantly with the evaluation of the CRMPs. At the same time, the formation of new CRMPs will begin in other priority watersheds; knowledge acquired in the implementation of the existing CRMPs will be applied in the development of the new CRMPs. Clean Water Action Plan will be used to implement the Watershed Restoration Action Strategies in the prioritized watersheds; at the end of the first five years, this document (the updated SMP) and the UWA priorities will be revised and updated, as necessary, and therefore priorities may change accordingly.

The development of TMDLs for the 303(d) listed waters is a process that is undergoing some transformation, nationwide. Although traditionally the process involved point sources of pollution, nonpoint sources of pollution are being taken in consideration now, for the balancing of total allowable discharges into the surface waters. In Nevada, the process is also in transformation. Practically all the 303(d) listed waters are located in priority watersheds for implementation of nonpoint source Clean Water Action Plan restoration activities. Several studies nationwide have shown that water quality impairments are occurring mainly due to nonpoint sources of pollution. Consequently, NDEP is integrating the CWAP efforts, the development of CRMPs or watershed management plans, the development of WRAS, and other nonpoint source protection activities with the development of TMDLs.

NDEP is still developing the methodology to incorporate nonpoint sources of pollution into the development of TMDLs, but the main basic element is the integration of data and information from all sources into one system that can analyze the whole watershed or sub-watershed. The system can be a model, GIS layers or other more traditional analytical tools. After all the data are gathered, the watershed is analyzed. Certain loading contributions are allocated to specific land uses; for example, agricultural lands contributing x pounds of nutrients to the system. In watershed where there are only nonpoint sources of pollution, the problem sites are identified, prioritized, and BMPs are implemented. In other systems, where there are point and nonpoint sources of pollution, the potential for pollution trading exists. In that case, it might be possible to involve the point source in the efforts to control pollution loading from the nonpoint sources of pollution and at the same time provide regulatory relieve to the point source.

The development, revision and updating of TMDLs is an on-going process in NDEP, and these efforts are being integrated and coordinated at the watershed level as resources allow. Currently, this is happening in three watershed, the Truckee, the Humboldt and the Walker Rivers, at different levels. In the Humboldt and the Walker Rivers, the data are being gathered in conjunction with the SARs. In the Truckee River, the whole watershed is being modeled.

The NPS program is developing plans to monitor water quality impacts and trends due to NPS

pollution. The three goals are 1) to be able to evaluate the positive impacts in water quality as a result of the implementation of the NPS program, 2) to evaluate the positive impacts of implementing demonstration projects, and 3) to evaluate the efficacy of the different best management practices implemented as a component of the demonstration projects. As part of the development of this effort, the NPS program is evaluating the location of existing sampling sites in relation to land use and to the location of NPS projects. Sampling sites that more directly analyze the NPS contribution will be created. Another element of the developing monitoring program is the watershed modeling component. The NPS program, in coordination with several other entities, is currently developing a watershed model for one watershed. The knowledge acquired, i.e., bringing together the entities involved in the watershed, sharing the data and developing the site-specific coefficients for the parameters, so that the results are meaningful to the local characteristics, will be used in setting watershed models for all priority watersheds. The NPS program is also developing mechanisms to evaluate the efficacy of BMPs. As a first step, several 319 projects are being encouraged to include a BMP evaluation component.

The NPS program evaluates the achievement of downward trends in water quality impacts on a regular basis through the development of the Nevada's Water Quality Assessment 305(b) Report and informally through the meetings of the NEAT group. With the development of the watershed model component of the program, the NPS program will assess the achievement of this goal as it relates more directly to nonpoint source pollution. Within the next fifteen years, enough data and analyses will be generated to show that all 303(d) listed waters will not be impaired or are being significantly less impaired due to nonpoint sources.

Goal #2 -- NDEP's second goal is to educate and get Nevadans involved in activities that protect water quality from nonpoint sources of pollution. This kind of pollution, by its very nature, requires the involvement of all citizens in implementing protective and preventive activities. The willingness of landowners, managers, developers and citizens to apply BMPs is directly related to their awareness of water quality concerns, their understanding of the impacts of their activities on NPS pollution and their perception of the personal and environmental benefits gained through BMP implementation. The educational programs that the NPS program implements are designed to reach elementary and high school teachers, the general public and those interest groups that have the greatest potential of controlling NPS pollution from specific source categories.

The NPS program utilized a broad range of collaborators to achieve implementation of the program, such as other agencies and the University Cooperative Extension educators. NDEP is planning to develop a statewide approach to NPS education; implementation of the plan will generate a binder containing educational materials and brochures organized by NPS categories, examples and reports of the educational projects that NDEP has funded and survey results describing lessons learned. The educational material and information will serve as reference and basis for future educational projects. At the watershed and local levels, educational activities are tailored to the local needs, and designed to improve natural resources management practices and to prevent pollution. For example, in a watershed that contains several small ranches with

domestic animals and shallow aquifer, educational projects are tailored to address waste and pasture management, minimizing runoff, and protection of wells. Another example is the implementation of the Integrated Pest Management (IPM) program, that teaches several techniques to control pests and minimize the use of pesticides. NDEP is currently developing an extensive educational program in two watersheds, the Steamboat Creek and the Colorado River; in the Steamboat Creek, education efforts are tailored to the different types of land use in the watershed: from small farms to urban areas; in the Colorado, efforts are being concentrated on educating the large population of Las Vegas, North Las Vegas and Henderson on stormwater runoff pollution; NDEP plans to incorporate the lessons learned in all the priority watershed within the next fifteen years. The educational program will be implemented in a new watershed every two to four years.

NDEP is also developing a system to evaluate the educational program; in collaboration with the University Cooperative Extension, a survey form will be incorporated as an element of the education projects. Participants will fill out the survey before and after going through the program. The educational program will be evaluated and revised according to survey results.

Goal #3 -- In order to coordinate water quality activities with a broad range of collaborators, NDEP has created the Nevada Eco-system Advisory Team (NEAT). The group fulfills several functions: as a nonpoint source technical advisory force, for sharing data and information, to eliminate duplication of efforts, and to ensure that nonpoint source issues are address in an effective and efficient manner.

In order to establish a more effective role and for longer term success, NDEP is planning to strengthen NEAT as a coordination mechanism. This will be accomplished by evaluating the current list of participants and expanding it; newly identified partners will be contacted and invited to participate. Existing MOUs and MOAs will be revised and updated as needed. The need for new agreements will be evaluated. NEAT members will have a bigger role in evaluating effectiveness of the CRMP groups in the different watersheds in the State. This will bring a wider range of local expertise into the watershed management process. Also, NDEP, in conjunction with NEAT, will develop a process to evaluate effectiveness of the partnerships, establishing success indicators and an annual review process.

The NEAT group will incorporate a more aggressive role for data and information sharing. As NDEP develops more sophisticated GIS and modeling capabilities, data sharing will become more important and NEAT will provide an appropriate mechanisms for this process. For more discussion on NEAT see Chapter IV.C.1.

Besides incorporating all the elements of the NPS program, as directed by this planning document, the State also coordinates its efforts and resources with other State program's management plans, as they relate to the protection of surface and ground waters, from nonpoint sources of pollution. They include the following documents: the Generic State Groundwater

Pesticide Management Plan; the State Water Plan; and the Comprehensive State Ground Water Protection Program (CSGWPP).

1) The Nonpoint Source SMP (this document) provides the overall frame work for implementing projects and programs that address NPS pollution. This document also describes the other documents as they relate to NPS issues and the protection of surface and ground waters from NPS pollution.

2) The Generic State Groundwater Pesticide Management Plan addresses the strategy employed by the Nevada Department of Agriculture to protect Nevada's ground water from contamination by agricultural chemicals. Prevention is the primary focus of the plan. The strategy includes restrictions in use, developing regulations for specific local ground water characteristics, training applicators, monitoring and education.

3) Although the State Water Plan addresses issues related to water supply, certain water quantity issues can be related to water quality, especially in Nevada's semi-arid climate.

4) The Comprehensive State Ground Water Protection Program (CSGWPP) documents describe Nevada's ground water protection efforts and provide a description of the adequacy of the programs and activities as compared to EPA's criteria. Nevada's Core CSGWPP was endorsed by EPA in November 1997. The program includes Nevada's Wellhead Protection Program which links it to Nevada's Source Water Assessment Program.

C. Partnerships -- (Key Element #2)

Nevada uses several formal and informal mechanisms to establish partnerships, which can be established statewide or on a watershed basis. For example, Nevada has developed several Memoranda of Agreement/Understanding with several Federal partners, such as the U.S. Forest Service, the Bureau of Land Management, and the Natural Resources Conservation Service. Nevada also works closely with Tribal governments not only addressing issues specific to the tribal lands but also coordinating with the rest of the watershed.

NDEP has established work groups and technical advisory boards to address issues that involve border rivers or lakes; NDEP also has significant involvement with all the priority watersheds in the State. NDEP will be developing future partnerships with watershed stakeholders while developing and strengthening the watershed management plans. NDEP will also be participating in technical advisory groups or other types of organizations that will be formed to develop TMDLs. The following is a description of several mechanisms that the Nevada nonpoint source program has developed to incorporate input from as many collaborators as possible.

C.1. Statewide NPS Task Force -- Nevada Ecosystem Advisory Team (NEAT)

Several Federal, State and local agencies administer programs which have elements relating to

nonpoint source pollution and other natural resource issues. In 1993, several agencies resolved to form NEAT, to improve communication and collaboration. Participants are able to share information, staff, funding and other resources and manage Nevada's ecosystems more efficiently. The group meets bi-monthly. Information can be accessed via web pages through NDEP or the University. Through the interaction of the members of NEAT, other environmental issues are also addressed. The implementation of projects and permitting of certain activities are examined by the group and problems such as the transfer of pollution or environmental impacts from one medium to another can be avoided or minimized. The Clean Water Action Plan's Unified Watershed Assessment process is a very good example of how this partnership works in Nevada. Because NEAT is a working group with shared history and knowledge, the watershed prioritization process was a natural continuation of other work that the group was performing together. Refer to Chapter IV.B., Goal #3 for future expanded role of NEAT.

C.2. Inter-State Partnerships

Nevada has helped forge inter-state watershed partnerships to coordinate efforts in two watersheds: the Truckee and the Colorado Rivers. Technically, the tributaries to Lake Tahoe are the headwaters of the Truckee River, most of which are in California. In addition, two-thirds of Lake Tahoe and the initial reach of the Truckee River are located in California. Many issues, such as erosion control, stream restoration, infestation of noxious weeds (which de-stabilize river banks or deplete oxygen in the water and thus affect water quality), nutrient loading in the lake, uniform water quality standards across state lines, TMDLs, need to be addressed by both states. Several groups are working together across state borders including the Truckee River Coordinated Monitoring Program, the University of Nevada Cooperative Extension's Weed Warriors program and various partnerships focused on the Tahoe Basin. In the future, NDEP will continue to participate in these inter-state partnerships.

C.3. Indian Nations Partnerships

There are 25 Indian governments (colonies or tribes) in Nevada, and they have jurisdiction over 1,114,521 acres, which makes up approximately 1.6% of the land in Nevada. NDEP and the Indian tribes have established cooperative efforts in preventing and controlling pollution from nonpoint sources. These cooperative efforts have translated into implementation of 319(h) projects, joint participation in technical task forces and coordination of efforts on a watershed-basis, in the Walker and Truckee Rivers and the Lake Tahoe Basin. Also, NDEP is collaborating on the Duck Valley Shoshone-Paiute Tribe's efforts to develop a bio-assessment program. NDEP plans to continue cooperation and collaboration with the Indian tribes in the area of water quality protection from nonpoint sources of pollution. These efforts will be accomplished according to the watershed in which NDEP is developing CRMP activities or collaborating in TMDL efforts. NDEP recognizes that the Indian tribes are important stakeholders in the watershed and will make every effort to always include them.

C.4. Citizen's Involvement Efforts

Citizens are being educated and are involved in nonpoint source issues through the several watershed efforts that are currently being implemented. NDEP is planning to further develop citizen's involvement as an expansion of the watershed-based efforts. Some of the mechanism to achieve this are: 1) the creation of watershed clean-up days or weed-pulling days; 2) coordinate with the newspapers and television stations to create series of articles or programs on nonpoint source issues; 3) create "demonstration laboratories" on several restoration sites, where the community (especially school children) participate in the restoration effort, and learn about nonpoint source protective measures. For details on how these efforts will be accomplished in each watershed, see Chapter III, Goal #1, tables 1.a through 1.h. Also, future revisions to the State Management Plan will be conducted with broad public involvement, through workshops and other opportunities for public input.

D. State Revolving Fund (SRF)

While SRF loans may not be applicable for many nonpoint source projects for which there is no mechanism for repayment, the fund may be a significant resource for addressing certain NPS water quality problems faced by local governments. Examples include sewering of areas where septic system densities are too high, purchasing water rights to maintain or improve water quality by providing flow, purchasing conservation easements, and construction of erosion and sediment management infrastructure. The NPS program will integrate SRF information into presentations and literature regarding project funding and assist applicants for SRF funding to address nonpoint source problems.

E. Program Implementation by Categories of Nonpoint Source Pollution

The categories and subcategories of nonpoint source pollution addressed by Nevada's nonpoint source program are: Agriculture (irrigated crop production, pasture land, range land, feedlots and animal holding/management areas); Silviculture (harvesting, reforestation, residue management, road construction/maintenance and forest management); Urban Runoff; Construction; Land Disposal (individual sewage disposal systems only); and Hydrologic and Habitat Modification. In the Future, NDEP will identify the industry groups for each category of NPS pollution which can be targeted for education programs and for technology transfer for proper implementation of BMPs.

E.1. Agriculture

NDEP has identified and works closely with the following collaborators in preventing pollution from these activities: the Natural Resource Conservation Service (NRCS), local Conservation Districts, local farmers and ranchers, the University of Nevada Cooperative Extension, the Nevada Department of Agriculture and the BLM. NDEP coordinates with NRCS regarding the implementation of nonpoint source projects; for example, NDEP participated in the process of prioritizing the State's watersheds for EQIP program funding. (Note: NRCS also participated in

the process of prioritizing the State's watershed for the Clean Water Action Plan).

Concentrated animal feedlot operators are required to obtain appropriate NPDES permits from NDEP's Bureau of Water Pollution Control (BWPC). Nevada's nonpoint source program works very closely with concentrated feedlot operations that are exempted from permit requirements, through the implementation of resource reduction and land management strategies.

Nevada has implemented numerous programs and projects to address the issues related to agriculture. Future NDEP activities to address this NPS category include gathering data to quantify the runoff and return flows from this category, evaluating the agricultural BMPs for maximum benefit, incorporating these activities in the TMDL and watershed management processes, expanding the program to address concentrated animal feedlot operations and dairies that are not otherwise regulated, and continuing the implementation of demonstration projects.

E.2. Silviculture

Both the USFS and the Nevada Division of Forestry are collaborators in the NEAT efforts. NDEP has also supported the U.S. Forest Service in implementing riparian improvement projects. The Nevada State Forester Firewarden operates a permit program under the Nevada Forest Practice Act to regulate the silvicultural activities that generate runoff and erosion. Future NDEP activities to address this NPS category include identification of waters that are currently being negatively impacted by silviculture, prioritize those waters, review and update (if necessary) the MOUs/MOAs with the U.S. Forest Service (USFS) to address these concerns, coordinate activities with the Nevada Division of Forestry (NDF), and review and update (if necessary) the silviculture BMPs .

E.3. Construction

Nevada NPS program coordinates preventive activities with the NPDES Storm water program, the Nevada Department of Transportation, the counties and cities. Several of the activities related to construction are addressed within the context of a Comprehensive Resource Management Plan, which will be discussed in more detail in the Urban runoff section of this chapter. Future NDEP activities to address this NPS category include developing and/or strengthening an education component to reach construction companies, local government agencies and other entities involved in regulating construction activities; and review and update (if necessary) the BMPs related to construction.

E.4. Urban Runoff

NDEP has been delegated the NPDES storm water program. The nonpoint source program works in coordination with the NPDES program establishing urban runoff education programs in both major urban areas. In the future, NPS program staff will continue working with permittees (with education/public outreach and technology transfer for the implementation of BMPs) as part

of a watershed-based cooperative effort and at the same time work with smaller communities not subject to NPDES Phase II. Also, NDEP will expand the storm water drains stenciling program to several other communities in Nevada.

E.5. Land Disposal

NDEP's Bureau of Water Pollution Control regulates sewage disposal systems with a capacity of 5,000 gallons or more of effluent per day. The Bureau of Health Protection Services and County Health Departments regulate individual septic systems with capacities less than 5,000 gallons per day. Also, NDEP has developed a policy on septic system density which is used in the review of housing sub-division plans. In suburban and rural areas, the proper construction and maintenance of ISDS is part of the education component of the NPS program. Future NDEP activities to address this NPS category include working with the Ground Water Protection program on an expansion of the education/outreach component to include as many communities as possible, review and update (if necessary) the related BMPs, and incorporate these activities in the watershed management process.

E.6. Hydrologic and Habitat Modification

In Nevada, hydrologic modifications have occurred on scales ranging from the monumental structures on the Colorado River to farm irrigation ditches and impact every river system in the state. By its nature, hydro modification is directly related to other activities such as agriculture, road construction, land development, silviculture and mining activities. Impacts of hydrologic modification on wetlands are assessed through the Clean Water Act section 404 process.

Nevada's nonpoint source program addresses issues related to hydrologic and habitat modification in a watershed approach. For a more comprehensive discussion on this, please refer to Chapter IV, part B.2.2.

V. Best Management Practices

A. Overview

In 1978, Nevada's Handbook of Best Management Practices was developed, through the leadership of the Nevada Division of Conservation Districts, the Conservation Commission and the Nevada Division of Environmental Protection. The document was developed as part of the water quality management planning process for addressing nonpoint sources of pollution in the non-designated area in Nevada. The non-designated area includes the entire state with the exception of Washoe and Clark counties, the Lake Tahoe Basin and the Carson River Basin. The 1994 revision, which was developed through a coordinated effort between those same groups, is applicable for remediating and eliminating nonpoint sources of pollution throughout the entire state.

Nonpoint sources of pollution include agriculture, grazing, silviculture, construction, hydrologic and habitat modification, mining, urban runoff and waste disposal. Nevada recognizes that the most effective means of reducing nonpoint source pollution is through a voluntary, grass roots-level approach. The strategies used by the State to prevent and control nonpoint sources of pollution are land management/land use planning, source reduction and the implementation of best management practices; also, the cooperative efforts of all those affected by water quality problems is necessary for successful implementation of the program.

As Nevada's population continues to increase in the urban and rural areas, demands placed on Nevada's limited surface and ground water resources also increase. Through a cooperative effort to develop water quality management plans, which include the implementation of best management practices (BMPs), it is hoped that the quality of Nevada's water resources can be improved where water quality standards are not met and maintained where they are met.

The 1994 State of Nevada Handbook of Best Management Practices is intended as a *general guidance and information resource* to assist agencies, entities and individuals in water quality management activities aimed at reducing or preventing nonpoint source pollution. The handbook does not include design specifications or standards. Structures and other practices should be designed by a qualified professional who addresses site specific conditions and regulatory requirements.

B. State Regulations

Nevada Revised Statutes (NRS 445A.300 - 445A.730) and Nevada Administrative Code (NAC 445A.305 - 445A.340) provide the legal authority for controlling "diffuse" or nonpoint source pollution. "Best practices" are defined in NAC 445A.306 as "measures, methods of operation or practices which are reasonably designed to prevent, eliminate or reduce water pollution from diffuse sources and which are consistent with the best practices in the particular field under the conditions applicable. This term is intended to be equivalent to the term 'best management

practices' as used in federal statutes and regulations."

NAC 445A.309 defines "Diffuse source" as:

1. Agricultural activity, including return flows from irrigation;
2. Silvicultural activity;
3. Mining activity;
4. Construction of buildings, roads, dams, utility lines or other improvements or facilities;
5. Runoff from roads, streets and railroads;
6. Construction or use of recreational trails;
7. Modification of watercourses or stream channels; and
8. Runoff from urban areas.

Even though the NPS program in Nevada is intended to be voluntary, provisions exist for more rigid control. Regulations specific to construction or grading and logging or timber extraction (NAC 445A.339 and 445A.340) require the use of practices selected from the State Handbook of Best Management Practices to prevent, eliminate or reduce water pollution from diffuse sources, as conditions in permits or certificates.

C. Summary of the 1994 Handbook

The Nevada Handbook of Best Management Practices was updated to reflect the sources of pollution identified by Nevada and the U.S. EPA. The Handbook is divided into twelve chapters: 1) Road and Construction Site Practices; 2) Erosion and Sediment Controls; 3) Soil Stabilization Practices; 4) Slope Stabilization Practices; 5) Infiltration Systems; 6) Watershed Management; 7) Agriculture; 8) Forest Resource Management; 9) Mining; 10) Urban Resource Management; 11) Waste Management; and 12) Miscellaneous.

A summary of all the BMPs described is provided in Tables V-1 through Table V-8.

Table V-1

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 1-1	BMP 1-2	BMP 1-3	BMP 1-4	BMP 1-5	BMP 2-1	BMP 2-2	BMP 2-3	BMP 2-4	BMP 2-5
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Hydrologic Modification	✓	✓	✓	✓		✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓		✓	✓			
Irrigation and Drainage	✓	✓	✓	✓		✓	✓	✓	✓	✓
Cropland			✓			✓		✓	✓	✓
Livestock Grazing			✓							✓
Feedlots / Animal Holding	✓	✓	✓	✓		✓		✓		
Silviculture	✓	✓	✓	✓		✓	✓	✓		
Resource Extraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff	✓	✓	✓			✓			✓	
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓		✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition	✓	✓		✓	✓	✓				

BMP 1-1: DEVELOPMENT SITE PLAN (pg 1-2)
BMP 1-2: GRADING SEASON & PRACTICES (pg 1-4)
BMP 1-3: ACCESS ROADS (pg 1-5)
BMP 1-4: DUST CONTROL (pg 1-8)
BMP 1-5: TOPSOIL MANAGEMENT (pg 1-10)

BMP 2-1: EROSION & SEDIMENT CONTROL STRUCTURES (pg 2-2)
BMP 2-2: RUNOFF INTERCEPTOR TRENCH OR SWALE (pg 2-5)
BMP 2-3: DIVERSION DIKE (pg 2-8)
BMP 2-4: DIVERSION DAM (pg 2-11)
BMP 2-5: LEVEL SPREADER (pg 2-14)

Table V-2

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 2-6	BMP 2-7	BMP 2-8	BMP 2-9	BMP 2-10	BMP 2-11	BMP 2-12	BMP 2-13	BMP 2-14	BMP 3-1
Construction	✓	✓		✓	✓	✓	✓		✓	✓
Hydrologic Modification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓		✓		✓		✓
Irrigation and Drainage		✓	✓	✓	✓	✓	✓	✓	✓	✓
Cropland						✓		✓	✓	✓
Livestock Grazing						✓		✓		✓
Feedlots / Animal Holding				✓	✓					
Silviculture	✓	✓	✓	✓	✓		✓			✓
Resource Extraction	✓	✓	✓	✓	✓	✓	✓		✓	✓
Urban Runoff	✓	✓		✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition						✓	✓			✓

BMP 2-6: SILTATION OR FILTER BERMS (pg 2-17)
BMP 2-7: FILTER OR SILT FENCE (pg 2-20)
BMP 2-8: FILTER STRIPS (pg 2-23)
BMP 2-9: SEDIMENT BARRIERS (pg 2-27)
BMP 2-10: SEDIMENT BASINS (pg 2-31)
BMP 2-11: GRASSED WATERWAYS & OUTLETS (pg 2-34)
BMP 2-12: ROCK LINED DITCH OR SWALE (pg 2-36)
BMP 2-13: WATER SPREADING (pg 2-39)
BMP 2-14: PERMANENT WATERWAY (pg 2-41)
BMP 3-1: HYDRO SEEDING/MULCHING (pg 3-2)

Table V-3

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 3-2	BMP 3-3	BMP 3-4	BMP 3-5	BMP 3-6	BMP 3-7	BMP 3-8	BMP 4-1	BMP 4-2	BMP 4-3	BMP5 -1
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hydrologic Modification	✓	✓	✓		✓			✓	✓	✓	✓
Habitat Modification	✓	✓	✓			✓	✓	✓			
Irrigation and Drainage	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Cropland				✓							✓
Livestock Grazing				✓							✓
Feedlots / Animal Holding				✓							✓
Silviculture	✓	✓	✓		✓	✓	✓	✓		✓	✓
Resource Extraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff					✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓		✓	✓	✓	✓		✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓			✓	✓
Atmospheric Deposition	✓	✓	✓		✓	✓	✓			✓	

BMP 3-2: WATTLING (pg 3-5)
BMP 3-3: BRUSH LAYERING (pg 3-9)
BMP 3-4: BRUSH MATTING (pg 3-11)
BMP 3-5: WINDBREAKS (pg 3-13)
BMP 3-6: ROCK & GRAVEL MULCHES (pg 3-17)
BMP 3-7: WOOD CHIP, STRAW & BARK MULCHES (pg 3-19)
BMP 3-8: JUTE & SYNTHETIC NETTING (pg 3-21)
BMP 4-1: SLOPE SHAPING (pg 4-2)
BMP 4-2: RETAINING STRUCTURES (pg 4-4)
BMP 4-3: ROCK RIPRAP (pg 4-8)
BMP 5-1: INFILTRATION TRENCH OR BASINS (pg 5-2)

Table V-4

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 5-2	BMP 5-3	BMP 5-4	BMP 6-1	BMP 6-2	BMP 6-3	BMP 6-4	BMP 6-5	BMP 6-6	BMP 7-1	BMP 7-2
Construction	✓	✓	✓	✓	✓	✓	✓	✓			
Hydrologic Modification			✓	✓	✓	✓	✓	✓	✓	✓	
Habitat Modification			✓	✓	✓	✓			✓		✓
Irrigation and Drainage	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Cropland			✓	✓	✓	✓				✓	✓
Livestock Grazing			✓	✓	✓	✓			✓		
Feedlots / Animal Holding											
Silviculture			✓	✓	✓	✓			✓		
Resource Extraction			✓	✓	✓	✓	✓	✓			
Urban Runoff	✓	✓		✓	✓	✓	✓	✓			
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Atmospheric Deposition			✓		✓	✓					

BMP 5-2: DRY WELL (pg 5-6)
BMP 5-3: FRENCH DRAIN (pg 5-7)
BMP 5-4: WETLANDS (pg 5-9)
BMP 6-1: CRITICAL AREA PROTECTION (pg 6-2)
BMP 6-2: CRITICAL AREA STABILIZATION (pg 6-4)
BMP 6-3: STREAM PROTECTION & STABILIZATION (pg 6-7)
BMP 6-4: FLOODWATER RETARDING STRUCTURE (pg 6-10)
BMP 6-5: FLOODWATER DIVERSION (pg 6-12)
BMP 6-6: PRESCRIBED USE OF FIRE (pg 6-15)
BMP 7-1: IRRIGATION WATER MANAGEMENT (pg 7-2)
BMP 7-2: IRRIGATED CROPLAND MANAGEMENT (pg 7-6)

Table V-5

Best Management Practices (BMPs)
Related To Activities And Situations That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 7-3	BMP 7-4	BMP 7-5	BMP 7-6	BMP 7-7	BMP 7-8	BMP 7-9	BMP 7-10	BMP 7-11	BMP 8-1
Construction										✓
Hydrologic Modification										
Habitat Modification					✓	✓	✓			✓
Irrigation and Drainage	✓	✓	✓	✓	✓					
Cropland	✓	✓	✓	✓	✓	✓	✓			
Livestock Grazing	✓		✓			✓	✓	✓		
Feedlots / Animal Holding			✓			✓	✓		✓	
Silviculture					✓					✓
Resource Extraction					✓					
Urban Runoff										
Land Disposal (runoff/leachate/infiltration)	✓		✓	✓						
Waste Management Activities			✓	✓						
Atmospheric Deposition		✓		✓						✓

BMP 7-3: NATIVE MEADOW IRRIGATION MANAGEMENT (pg 7-9)
BMP 7-4: PASTURE & HAYLAND MANAGEMENT (pg 7-11)
BMP 7-5: SALINITY CONTROL (pg 7-13)
BMP 7-6: CHISELING OR SUBSOILING (pg 7-16)
BMP 7-7: SOIL AMENDMENT, FERTILIZER & PESTICIDE MANAGEMENT (pg 7-17)
BMP 7-8: PLANNED GRAZING SYSTEM (pg 7-21)
BMP 7-9: PROPER GRAZING USE (pg 7-25)
BMP 7-10: RANGE IMPROVEMENTS (pg 7-27)
BMP 7-11: LIVESTOCK FACILITIES (pg 7-30)
BMP 8-1: ACCEPTED FOREST PRACTICES (pg 8-2)

Table V-6

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 8-2	BMP 8-3	BMP 9-1	BMP 9-2	BMP 9-3	BMP 9-4	BMP 9-5	BMP 9-6	BMP 10-1	BMP 10-2
Construction	✓	✓			✓		✓		✓	✓
Hydrologic Modification			✓	✓	✓	✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓		✓		✓		
Irrigation and Drainage					✓	✓	✓	✓		
Cropland										
Livestock Grazing		✓								
Feedlots / Animal Holding										
Silviculture	✓	✓								
Resource Extraction			✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff									✓	✓
Land Disposal (runoff/leachate/infiltration)				✓	✓	✓	✓	✓	✓	✓
Waste Management Activities			✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition	✓			✓		✓	✓			

BMP 8-2: WILDLAND/URBAN INTERFACE MANAGEMENT (pg 8-4)
BMP 8-3: FUELS MANAGEMENT (pg 8-7)
BMP 9-1: MINERAL EXPLORATION (pg 9-2)
BMP 9-2: EXCAVATION STABILIZATION (pg 9-4)
BMP 9-3: SURFACE RUNOFF MANAGEMENT (pg 9-8)
BMP 9-4: WASTE ROCK DUMP MANAGEMENT (pg 9-11)
BMP 9-5: IMPOUNDMENT MANAGEMENT (pg 9-12)
BMP 9-6: RECLAMATION (pg 9-15)
BMP 10-1: STREET RUNOFF COLLECTION (pg 10-2)
BMP 10-2: STORM DRAINAGE STRUCTURES (pg 10-7)

Table V-7

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 10-3	BMP 10-4	BMP 10-5	BMP 10-6	BMP 10-7	BMP 10-8	BMP 10-9	BMP 10-10	BMP 10-11	BMP 10-12
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hydrologic Modification	✓	✓					✓			
Habitat Modification				✓						
Irrigation and Drainage		✓	✓		✓	✓	✓	✓		
Cropland										
Livestock Grazing										
Feedlots / Animal Holding										
Silviculture		✓								
Resource Extraction		✓					✓	✓		
Urban Runoff	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)		✓		✓	✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition				✓						

BMP 10-3: SANDBAG CURB INLET SEDIMENT BARRIER (pg 10-11)
BMP 10-4: CULVERTS (pg 10-13)
BMP 10-5: IRRIGATION (pg 10-16)
BMP 10-6: LANDSCAPING (pg 10-18)
BMP 10-7: FERTILIZER MANAGEMENT (pg 10-20)
BMP 10-8: PESTICIDE/HERBICIDE MANAGEMENT (pg 10-22)
BMP 10-9: SNOW DISPOSAL PRACTICES (pg 10-25)
BMP 10-10: ROAD SALT STORAGE & RELATED PRACT. (pg 10-26)
BMP 10-11: STREET CLEANING PRACTICES (pg 10-28)
BMP 10-12: UNDERGROUND STORAGE TANKS (pg 10-30)

Table V-8

Best Management Practices (BMPs)
Related To Activities And Conditions That Are Potential Pollution Sources

Pollution Source (Appendix 2, #9)	BMP 11-1	BMP 11-2	BMP 11-3	BMP 11-4	BMP 11-5	BMP 11-6	BMP 11-7	BMP 12-1	BMP 12-2
Construction	✓	✓	✓	✓	✓	✓		✓	✓
Hydrologic Modification	✓							✓	✓
Habitat Modification									
Irrigation and Drainage	✓							✓	✓
Cropland									
Livestock Grazing									
Feedlots / Animal Holding	✓	✓	✓	✓	✓	✓		✓	
Silviculture									
Resource Extraction	✓	✓	✓	✓	✓	✓		✓	✓
Urban Runoff	✓	✓					✓		
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓		✓	
Waste Management Activities	✓	✓	✓	✓	✓	✓		✓	
Atmospheric Deposition									

BMP 11-1: WELLHEAD PROTECTION (pg 11-2)
BMP 11-2: WASTE MANAGEMENT SYSTEMS (pg 11-4)
BMP 11-3: RURAL WASTE DISPOSAL MANAGEMENT (pg 11-6)
BMP 11-4: WASTE TREATMENT LAGOON (pg 11-8)
BMP 11-5: WASTE STORAGE POND (pg 11-10)
BMP 11-6: WASTE STORAGE STRUCTURE (pg 11-12)
BMP 11-7: HOUSEHOLD HAZARDOUS WASTE MANAGEMENT (pg 11-13)
BMP 12-1: IMPERVIOUS SEALS (pg 12-2)
BMP 12-2: WATER STORAGE RESERVOIR (pg 12-5)

D. Future Updates

No major revisions to the Handbook are expected until the year 2000. Minor changes, such as correcting regulatory citations, should be completed by the end of 1999. A survey conducted in 1996 indicated that most Handbook users would like to see a condensed version that can be easily utilized in the field. Incorporating additional bioengineering techniques for stream restoration is also considered a priority, especially because of the proactive Watershed Management Programs being implemented for the Carson and Walker Rivers.

VI. Existing Nonpoint Source Programs

A number of federal, state and local programs exist which address nonpoint source pollution, many of which offer financial, technical and/or programmatic assistance to address water pollution. This section describes these programs as required by section 319(b)(2)(B) of the Clean Water Act and the "Nonpoint Source Program and Grants Guidance for Fiscal Year 1997 and Future Years". For some programs, water quality may not be the primary focus, but water quality improvements may be an indirect benefit. A brief description of some of the more pertinent programs follows.

A. Federal Programs

A.1. U.S. EPA Regulatory Authority

The Federal Water Pollution Control Act, 1987 Amendments, commonly known as the Clean Water Act (CWA), provides the framework for nationwide water pollution control and water quality management in the United States. The goal of the Act is to restore and maintain the integrity of the nation's waters and to provide water quality sufficient for the "protection and propagation of fish, shellfish and wildlife and provision of recreation in and on the water".

Research, Investigations, Training and Information
Section 104(a) - Mandates the U.S.EPA to establish national programs for the prevention, reduction and elimination of pollution.

Grants for Research and Development
Section 105(b) - "The Administrator is authorized to make grants to any State or States or interstate agency to demonstrate, in river basins or portions thereof, advanced treatment and environmental enhancement techniques to control pollution from all sources, within such basins or portions thereof, *including nonpoint sources*, together with in-stream water quality improvement techniques."

Grants for Pollution Control Programs
Section 106(a) - The U.S.EPA is authorized to appropriate funds for grants to States and interstate agencies to assist them in administering programs for the prevention, reduction and elimination of pollution, including enforcement.

Section 201(g)(1)(B) - In 1981, states were provided discretion in funding wastewater facilities through the addition of the Governor's 20 percent set-aside (section 201(g)(1)(B)) to the CWA. Under section 201(g)(1)(B) states are authorized to spend up to 20% of their section 201 allotment on projects otherwise ineligible for funding under the section 212 construction grants program. In the 1987 Amendments to the CWA, the scope of section 201(g)(1)(B) funding was broadened to include section 319 activities. Conditions for use of section 201(g)(1)(B) for section 319 projects are the same as those established under sections 319(i) and (h) (see section 319 discussion), including matching requirements. The CWA does not require that 201(g)(1)(B)

funds be used for NPS management program implementation but does establish the availability of the funds. Use of the funds is a matter of state policy.

Section 205(j)(5) - Added to the CWA in the 1981 Amendments, section 205(j)(2) allows states to receive federal funding for basic water quality management planning activities after the loss of funds provided for in section 208 of the CWA. In the 1987 Amendments, section 205(j)(5) was added to the CWA. This section provides states an additional one-percent set-aside of construction grant funds or $100,000 annually, whichever is greater, for the purpose of carrying out activities identified in section 319 of the CWA. Section 205(j)(5) funds may be used for: 1) NPS assessment report, management program and data management system development; and 2) NPS management program implementation. No state matching funds are required for development activities. Grants for NPS management program implementation activities must meet the matching requirements of sections 319(h) (40% non-federal match) and 319(i) (50% non-federal match). Section 205(j)(5) loans to individuals are limited to demonstration projects.

Area-wide Waste Treatment Management

Section 208(b)(2)(F) - "a process to (i) identify, if appropriate, agriculturally and silviculturally related *nonpoint sources* of pollution, including return flows from irrigated agriculture and their cumulative effects, runoff from manure disposal areas and from land used for livestock and crop production and (ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources; ...) Plans are also required to control pollutant discharges related to mine runoff, construction activity, land disposal, subsurface excavations and dredged or fill material.

Section 208 of the CWA provides for the development of water quality management plans by states and designated water quality management agencies. These plans address both point and nonpoint sources of pollution. For control of NPS pollution, designated management agencies are established and BMPs developed. In Nevada, under section 208, area wide water quality management agencies were designated for four geographic regions. In western Nevada, the Truckee Meadows Regional Planning Agency is responsible for water quality planning in Washoe County and is also the designated 208 planning agency. The Tahoe Regional Planning Agency (TRPA) is the management agency for the Tahoe Basin and is also the designated 208 planning agency. The Carson River Basin Council of Governments (CRBCOG) was the 208 planning agency for the multi-county area within the Carson River Basin. Upon the loss of the 208 funding, CRBCOG ceased to function as the water quality planning agency for the region and NDEP became the management agency. In southeastern Nevada, the Clark County Comprehensive Planning agency served as the 208 planning agency for the Clark County area and remains the water quality management agency today. The Nevada Division of Environmental Protection is responsible for water quality planning in the 208 non-designated areas, which encompasses the rest of the State.

Water Quality Standards and implementation plans

Section 303 - Under the CWA, U.S.EPA is required to review and approve state water quality standards to ensure consistency with provisions of the Act. States are required to establish water quality standards, assess the quality of the waters in the State, identify all waters not meeting the

prescribed standards and develop total maximum daily loads (TMDLs) for such waters.

Water quality standards affect all pollution control programs including nonpoint source programs. Best management practices are the primary mechanisms through which NPS management programs achieve water quality standards. Accordingly, BMPs must be designed to meet water quality standards and their effectiveness in attaining water quality standards must be demonstrable. If BMPs cannot protect water quality standards, the state must revise BMPs, review water quality standards or reevaluate the pollution causing activity.

Information and Guidelines

Section 304(f) - EPA is required to issue guidelines for identifying and evaluating the nature and extent of *nonpoint sources* of pollution. **Section 304(k)(1)** states EPA must also enter into agreements with other federal entities to ensure "maximum utilization of other federal laws and programs for the purpose of achieving and maintaining water quality through appropriate implementation of plans approved under section 208 of this Act and nonpoint source pollution management programs approved under section 319 of this Act."

Water Quality Inventory

Section 305(b)(1)(E) - "a description of the nature and extent of *nonpoint sources* of pollutants, and recommendations as to the programs which must be undertaken to control each category of such sources, including an estimate of the costs of implementing such programs."

Nonpoint Source Management Programs

Section 319(a) - States are required to prepare assessment reports which identify "those navigable waters which without additional action to control nonpoint sources of pollution cannot reasonably be expected to attain or maintain applicable water quality standards". In addition, assessments must identify the categories of nonpoint source pollution and describe the process for identifying BMPs or other measures to control each category of pollution. Section 319(b) requires implementation of a statewide management program which specifies BMPs to control and reduce pollutant loadings to surface and groundwater. Section 319(h) describes the grant program available to fund nonpoint source projects.

Certification

Section 401 - Provides states with the authority to review permits or license applications for activities which may generate discharge of pollutants into navigable waters and violate of water quality standards.

National Pollutant Discharge Elimination System (NPDES)

Section 402 - Provides a mechanism to control the pollutant discharges from several activities. NPDES permits can be general and individual. General permits are developed for a category of activity and the individual permits are developed for all municipal sewage treatment plants and "major industrial dischargers". Specific applications of NPDES permits are: 1) Wastewater Discharge; 2) Stormwater Pollution, which applied originally to cities over 100,000 people and over time applies to more and more cities; 3) Construction Sites, which applied originally to

sites larger than 5 acres and now smaller sites are also being regulated; 4) Animal Feedlot Operations, which applies to large-scale feedlots; and 5) Mining, which applies to current operations and abandoned mines.

Permits for Dredged or Fill Material (refer to Section A.4. of this chapter - U.S. Army Corps of Engineers)
Section 404 - Establishes a permit program to allow for the discharge of dredged or fill material into navigable waters at specified disposal sites. **Section 404(f)(2)** states "Any discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this section." The primary purpose of the 404 permitting process is to protect wetlands from impairment of their habitat, flood control or water quality functions.

Water Pollution Control Revolving Loan Funds
Section 603 - The CWA provides a mechanism for low-interest loans for communities, individuals, citizen's groups, non-profit organizations and others to improve water quality through the implementation of a wide-range of projects. States may apply for this program, if they so choose. Management programs under section 319 are eligible.

Reservation of Funds for Planning
Section 604(b) - Funds allotted to carry out plans under sections 205(j) and 303(e). Section 205(j)(2)(a) states sums shall be used to make grants for " identifying most cost effective and locally acceptable facility and nonpoint measures to meet and maintain water quality standards". Section 303(e) requires each state to have a continuing planning process for items such as effluent limitations, TMDLs and schedules of compliance.

National Environmental Policy Act (NEPA) - This law requires environmental impact statements for land use projects that involve all federally managed lands, including BLM, USFS, etc. The projects include hydroelectric power, mining, ground water withdrawals and resource management plans (e.g. - grazing).

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - commonly known as Superfund, requires the U.S.EPA to identify, investigate and clean-up uncontrolled hazardous waste sites not regulated by the Resource Conservation and Recovery Act (RCRA) or the Toxic Substance Control Act (TSCA). The law also includes a mechanism for natural resource trustees to receive compensation from the polluter to cover the costs of restoring lost or degraded natural resources. The Superfund program is financed by taxes on chemical and petroleum products and is reimbursable to the extent that EPA is able to take legal action to recover clean-up costs from parties responsible for the release of hazardous wastes. In many cases, uncontrolled hazardous waste sites are NPS pollution problems. Placing a site on the National Priority makes it eligible for funding through the Superfund program.

Federal Insecticide, Fungicide, Rodenticide Act (FIFRA or Pesticide Control Act, 1977) - provides a mechanism for registration of pesticides and regulation of their application to minimize risks of environmental contamination or human health hazards. The program is administered by EPA, with primary enforcement authority given to states for local administration. The major provisions of the Act include registration of pesticides with adequate test data, labeling to provide applicators with proper guidance for product use, applicator certification and record maintenance requirements.

Clean Water Action Plan - Emphasizes the importance of the Watershed Approach - all parts of the landscape must be managed to prevent pollution. Also promotes enhanced protection of public health from water pollution and more effective control of contaminated runoff.

A.2. U.S. Department of the Interior

a) U.S. Fish & Wildlife Service (USFWS)

Endangered Species Act & Section 7 Consultations - All federal agencies must consult with the USFWS when any federal activity may beneficially or adversely affect a listed species or modify designated critical habitat.

Environmental Contaminants Program - This program recommends ways to avoid, minimize, or compensate the public for harmful contaminant impacts on fish and wildlife. Some of the important tasks of this program include: 1) identify sources of pollution; 2) investigate pollution effects on fish and wildlife and their habitat; 3) investigate fish and wildlife die-offs; 4) respond to oil and hazardous material spills or releases, develop response plans for potential releases, and collect information to secure compensation for lost or degraded resources related to spills; 5) restore habitats and resources degraded by pollution; 6) provide advice to minimize the use of pesticides; 7) provide technical expertise to other federal agencies, states, industry, and agricultural interests on contaminant issues; 8) review proposals for federally funded, permitted, or licensed projects with pollution potential, to avoid or minimize harmful effects on fish and wildlife. The program also participates in the National Irrigation Water Quality Program (see U.S. Geological Survey below) and may participate as a natural resource trustee on CERCLA cases.

North American Wetlands Conservation Act of 1989 - This law encourages voluntary partnerships between the public and private sectors for the purpose of restoration, management and/or enhancement of a wetland ecosystem for wildlife habitat. Funding is provided through a grants program.

Migratory Bird Treaty Act - This Act establishes a Federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, etc. any migratory bird.

Partners for Fish and Wildlife - This voluntary program offers financial and technical

assistance to private, non-federal landowners who wish to restore habitat for fish and wildlife on their property.

Fish and Wildlife Coordination Act - This Act authorizes USFWS to provide assistance to and cooperate with Federal and State agencies to protect fish and wildlife resources, and to study the effects of pollutants on wildlife. The Act also requires consultations with USFWS where waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled by any agency under a Federal permit or license, to prevent loss or damage to wildlife resources.

b) U.S. Geological Survey (USGS)

As a federal agency with water quality and quantity concerns, USGS has the capability to assist federal, state and local agencies through a variety of support programs, in such areas as technical, coordination and management, financial, and data management. For example, presently, USGS, in cooperation with other federal agencies, is participating in two other projects which address the effects of irrigation runoff from the Newlands Project on the Stillwater Wildlife Management Area. USGS is working with the Groundwater Section of NDEP on a wellhead protection demonstration project in the Carson River Basin. In addition, USGS has developed a water quality database management and Geographic Information System (GIS) capabilities with NDEP.

National Water Quality Assessment Program (NAWQA) - Evaluates historical, current and future water quality conditions in representative river basins and aquifers nationwide. Nutrients and pesticides are the priority contaminants. Initial studies have estimated NPS loadings for approximately 90 watersheds. Early results indicate NPS loads vary widely and are strongly influenced by precipitation and runoff. (See Appendix 2, #12)

Toxic Substances Hydrology Program - Provides information about the behavior of toxic materials in several geologic or hydrologic environments. Data are used to avoid human exposure, develop clean-up strategies and prevent further contamination.

National Irrigation Water Quality Program - Addresses water quality problems associated with the Department of the Interior irrigation projects in the west. This program evolved because of the selenium poisoning of waterfowl which occurred at the Kesterson National Wildlife Refuge in California. The program is managed jointly by the USGS, the Bureau of Reclamation, the Bureau of Indian Affairs and US Fish and Wildlife Service. Reconnaissance studies were conducted at the Stillwater Wildlife Management Area and the Humboldt Wildlife Management Area, and field screening studies were conducted in areas associated with the Walker River Indian Reservation and at Indian Lakes. A detailed study was conducted at the Stillwater and Fernley Wildlife Management Areas. Three years of monitoring data were collected at the Stillwater National Wildlife Refuge and Carson Lake to provide background information for remedial planning.

c) U.S. Bureau of Reclamation (BOR)

The agency works under the **Government Performance and Results Act** to manage water quantity and quality. The primary purpose of BOR has been, since its inception in 1902, to develop irrigation projects for enhancement of agriculture in the western Unites States. BOR administers approximately 635,400 acres in Nevada (1.03% of total surface area in Nevada), including the Newlands Irrigation Project in the Lahontan Valley. The Bureau of Reclamation manages a variety of programs which provide financial and technical assistance to irrigation districts for project operation and management improvements.

The Soil and Moisture Conservation Program (S&MC) provides financial assistance for controlling sediment and related erosion problems on Bureau irrigation project lands. The Land Resource Management Program (LRM) focuses on the management of federal lands around BOR reservoirs. Funds from S&MC and LRM can be used for a variety of NPS pollution problems and control measures. The Reclamation Reform Act requires that water conservation plans be submitted for BOR approval by irrigation districts with repayment or water service contracts. The Bureau offers guidance and assistance for water conservation plan development. Through the Rehabilitation and Betterment Program (R&B), BOR can provide loans and design assistance for improvements and replacement of inadequate and antiquated components of irrigation projects.

In addition to the programs described above, BOR can provide financial and technical assistance to state and federal agencies for basic water quality investigations, monitoring and planning, particularly in relation to irrigation return flow water quality.

d) U.S. Bureau of Land Management (BLM)

Of the total surface area in Nevada (70,745,600 acres), 47,840,569 acres are under BLM jurisdiction. This makes BLM the major land management agency in Nevada, with 67.6% of the total surface area. All Bureau policies and procedures must be consistent with the Federal Land Policy and Management Act of 1976 (FLPMA) and all other laws which regulate use of public lands, including the NEPA requirements.

e) Bureau of Surface Mining and Reclamation

Clean Streams Initiative - A collaborative effort by government, industry and citizen to pool resources and clean-up streams contaminated by acid mine drainage.

Surface Mining and Control and Reclamation Act of 1977 (SMCRA) - Mandates protection of the environment during surface coal mining operations. Includes provisions for reclamation after mining is completed.

A.3. U.S. Department of Agriculture

a) U.S. Forest Service (USFS)

As with BLM, USFS is required to maintain an ongoing land use planning process and to evaluate the environmental impacts of proposed activities in its Land and Resource Management Plans.

In Nevada, the USFS manages approximately 5,800,000 acres or 8.2% of the total surface area, for a variety of uses. Many of these lands contain streams and creeks of pristine quality.

The National Forest Management Act (NFMA, 36 CFR 219) - Requires USFS to develop Land and Resources Management Plans (LRMPs) and to manage National forests and grasslands for multiple use and sustained yield. Decision making is also guided through NEPA compliance (40 CFR 1500.2 c), which allows interested parties to seek changes in Forest Service management.

b) Natural Resources Conservation Service (NRCS) - Relies on many partners to help set conservation goals, work with people on the land, and provide assistance. Its partners include conservation districts, state and federal agencies, NRCS Earth Team volunteers, agricultural and environmental groups, and professional societies.

Emergency Watershed Protection (EWP) - Provides financial and technical assistance to protect life and property from flooding and severe erosion hazards. Funding is provided for stream bank stabilization, debris-clearing and revegetation. Compensation is also available to eligible agricultural producers who are willing to offer private land for floodplain easements.

Environmental Quality Incentive Program (EQIP) - Created by the Federal Agriculture Improvement Act of 1996 (1996 Farm Bill). Targets financial, technical and education assistance for the most severe resource problems on private lands identified by a community-based watershed management effort. EQIP requires a Conservation Plan be prepared which addresses impacts beyond the farm or ranch boundary. Fifty percent of the funding authorized by Congress for the fiscal years 1997-2002 must be used to solve resource problems related to livestock production. In addition, EQIP can be used to meet the nonpoint source pollution requirements mandated by the Clean Water Act.

Swampbuster - The 1985 and 1990 Farm Bills contained provisions for wetland conservation requiring agricultural producers to protect wetlands found on their land if they wish to be eligible for USDA farm program benefits. The law is intended to discourage farmers and ranchers from draining wetlands and converting them to agricultural use. The 1996 Farm Bill mandated a number of changes to the original Swampbuster provisions. These changes included expanding the areas where mitigation can be used and accepting Section 404 permits authorizing wetland conversion as long as the activity was adequately mitigated.

Wetlands Reserve Program (WRP) - Voluntary program which provides financial and technical support to private landowners who wish to protect, restore or enhance wetlands found on their property.

Wildlife Habitat Incentives Program (WHIP) - Voluntary program which also provides funding and technical assistance for improving habitat on private lands.

Rural Abandoned Mine Program (RAMP) - Authorized by the Abandoned Mine Reclamation Act of 1991 (amendment to SMCRA) to reclaim soil and water resources of rural lands damaged by past coal mining practices. The voluntary program provides technical and financial assistance to land users who want to reclaim up to 320 acres of land.

Backyard Conservation Program - Public education program to encourage homeowners and city residents to use conservation practices such as backyard wetlands, nutrient management and composting to protect the environment.

c) Farm Service Agency (FSA)

Conservation Reserve Program (CRP) - This program encourages farmers to convert environmentally sensitive acreage or highly erodible cropland to vegetative cover in order to reduce soil erosion, improve water quality, create habitat and protect the Nation's ability to produce food and fiber. Financial assistance is provided.

d) Cooperative Extension Service (CES) - Has a mandate to work with both urban and rural communities to provide educational programs that address pressing needs in the areas of natural resources, families and communities. Cooperative Extension also has a well established educational system, many of the required technical capabilities and the linkages to acquire and translate information from the research community. National initiatives have directed CES to address surface water and ground water quality issues. CES educates the public about water quality issues including contaminant sources and movement, relationships between land-use practices and water pollution, water conservation, Best Management Practices and other issues. CES is uniquely suited to deliver integrated programs for public education.

e) Resource Conservation and Development Councils (RC&DC) - Local RC&D Councils are grass-roots community leaders working collectively in behalf of conservation and sustainable development.

A.4. U.S. Army Corps of Engineers (U.S.ACOE)

Jurisdiction under the Clean Water Act
Section 404 Permits - USACOE has jurisdiction to control the discharge of dredge and fill

material into the waters of the United States, but EPA maintains the authority to veto Corps' permits. Water of the United States include all navigable waters, streams, lakes, intermittent streams, many ephemeral channels and wetlands. The issuance of the 404 permits is coordinated with several agencies - USFS, USEPA, USFWS and NDEP. All agencies' issues and concerns have to be addresses and public notice and review is also required. The Corps can issues three types of permits: 1) Individual permits (33 CFR 325) are required for projects which may cause significant impact and applications must undergo a public notice and review process; 2) Regional general permits {323.2(h) & 325.2(e)(2)} are issued for activities that are similar in nature, and cause only minimal impact in a specified geographical area; and 3) Nationwide general permits (33 CFR 330) can authorize a category of activities throughout the nation that have minimal impacts on the waters of the United States. Activities that can be regulated by a nationwide permit include stream bank stabilization, riparian restoration or creation, utility line placement and minor road fills.

B. State Programs

The State Environmental Commission (SEC) is a quasi-judicial and quasi-legislative body with the responsibility of developing and promulgating rules, regulations and standards for controlling air and water pollution and solid and hazardous waste management; it also levies penalties for air quality violations. The SEC's rules and regulations are enforced through the Department of Conservation and Natural Resources, Division of Environmental Protection.

B.1. Nevada Department of Conservation and Natural Resources (NDCNR)

a) Division of Environmental Protection (NDEP)

Bureau of Water Quality Planning (BWQP)

- Oversees the state Nonpoint Source Program as mandated by section 319 of the CWA
- Performs water quality monitoring of selected/priority rivers, streams, reservoirs and lakes
- Establishes water quality standards and issues water quality certifications as mandated by the CWA sections 106 and 401
- Maintains the Comprehensive Ground Water Protection Program and Wellhead Protection Program under the Safe Drinking Water Act
- Develops TMDLs, as mandated under section 303 of the CWA

Bureau of Water Pollution Control (BWPC)

- Prepares NPDES (including storm water), ground water discharge, effluent reuse and Rolling Stock permits
- Reviews subdivision plans for adequate wastewater disposal services or septic system density

- Oversees the Underground Injection Control permit program
- Enforces violations of permit conditions
- Provides technical assistance/reviews designs
- Administers SRF loan program

Bureau of Mining Regulation and Reclamation (BMR&R)

- Oversees the design, construction, operation and closure of mining facilities
- Normally requires a zero-discharge permit for each facility
- Permit requirements include surface/groundwater monitoring, routine characterization of waste rock and process solutions, spill or release reporting

Bureau of Corrective Actions (BCA)

- Oversees investigation and remediation activities of sites where contamination has occurred
- Responsible for the Underground Storage Tank (UST) Program - adopted 40 CFR 280
- Financial assistance provided to UST owners/operators through State Petroleum Fund
- Primarily concerned with releases of hydrocarbons, PCBs, heavy metals, pesticides, solvents

Bureau of Federal Facilities (BFF)

- Regulates remediation of contamination from historical operations on certain DOD/DOE sites (any new releases are regulated by the Bureau of Corrective Actions)

Bureau of Waste Management (BWM)

- Oversees the Hazardous and Solid Waste Program
- Management Plans provide mechanism to inventory sources, types and quantities of hazardous waste and to manage solid waste
- State has adopted federal regulations related to hazardous waste treatment, storage and disposal
- Grant program initiated to help businesses reduce hazardous waste generation
- Provides assistance to local waste collection/disposal/recycling efforts
- Provides controls for solid waste landfills

NDEP Water Quality Related Regulations and Authorities.

Bureau Branch Applicable Section of Regulations	**Nevada Administrative Code (NAC)**	**Nevada Revised Statutes (NRS)**
Bureau of Water Pollution Control		
Discharge Permitting - Water Pollution Control	445A.070 - 445A.348	445A.300 - 445A.730
General Provisions	445A.070 - 445A.117	
Discharge Permits	445A.228 - 445A.263	
General Permits	445A.266 - 445A.272	
Use of Treated Effluent for Irrigation	445A.275 - 445A.280	
Treatment Works	445A.283 - 445A.292	

Bureau Branch Applicable Section of Regulations	**Nevada Administrative Code (NAC)**	**Nevada Revised Statutes (NRS)**
Zones of Mixing	445A.295 - 445A.302	
Subdivision Review		
Subdivision of Land	278.010 - 278.530, 445A.810 - 445A.925	278.335 - 278.377
Underground Injection Control Permitting	445A.810 - 445A.862	445A.465 - 445A.470
General Provisions and Definitions	445A.865 - 445A.901	
Permits for Underground Injection	445A.905 - 445A.925	
Construction, Operation, Monitoring and Abandonment		
Bureau of Water Quality Planning		
Water Quality Standards		445A.300 - 445A.730
Water Pollution Control - General Provisions	445A.070 - 445A.117	
Standards for Water Quality	445A.119 - 445A.225	
Water Quality Monitoring		
Water Quality Laboratory Certification	445A.055 - 445A.066	445A.425 - 445A.430,
Ground Water Protection and Nonpoint Source		445A.300 - 445A.730
Diffuse Sources	445A.305 - 445A.340	
Bureau of Mining Regulation and Reclamation		
Mining Facility Regulation	445A.350 - 445A.447	445A.300 - 445A.730
General Provisions	445A.350 - 445A.388	
Permits for Facilities	445A.390 - 445A.420	
Operation and Design of Facilities	445A.424 - 445A.447	
Mining Reclamation	519A.010 - 519A.415	519A.010 - 519A.240 519A.260 - 519A.280
General Provisions	519A.010 - 519A.115	
Permits and Fees	519A.120 - 519A.240	
Reclamation of Land	519A.245 - 519A.345	
Provision of Surety	519A.350 - 519A.390	
Enforcement	519A.395 - 519A.405	
Miscellaneous Provisions	519A.410 - 519A.415	
Bureau of Waste Management	444.570 - 444.7499	444.440 - 444.645
Solid Waste Mgmnt - Disposal of Solid Waste	444.570 - 444.639	
General Provisions	444.640 - 444.6765	
Provisions Applicable to Solid Waste Management Systems	444.6769 - 444.7025	
Class I Sites	444.704 - 444.728	
Class II Sites	444.731 - 444.747	
Class III Sites	444.748	
Appeals and Requests for Variance	444.7481 - 444.7499	
Ground Water Monitoring and Corrective Action	444A.005 - 444A.470	444A.010 - 444A.110
Recycling		
Hazardous Waste Program	444.842 - 444.8482	459.400 - 459.600
Facilities for Management of Hazardous Waste	444.842 - 444.8486	
General Provisions	444.847 - 444.8482	

Bureau Branch Applicable Section of Regulations	**Nevada Administrative Code (NAC)**	**Nevada Revised Statutes (NRS)**
Variances	444.850 - 444.8746	459.400 - 459.600
Disposal of Hazardous Waste	444.850 - 444.861	
General Provisions	444.8632 - 444.8688	
Standards of Practice	444.8693 - 444.8696	
Variances	444.8752 - 444.8746	
Administrative Penalties	444.8752 - 444.8788	459.400 - 459.600
Program to Reduce & Recycle Hazardous Waste		
Polychlorinated Biphenyl	444.940 - 444.9555	459.400 - 459.600
Limits on Hazardous Waste Facility Permits	444.960	459.400 - 459.600
Disposal of Asbestos	444.965 - 444.976	459.400 - 459.600
Chemical Accident Prevention	459.952 - 459.9542	459.380 - 459.3874
Highly Hazardous Substances		
Bureau of Corrective Actions		
UST/LUST - Petroleum Fund		
Storage Tanks	459.9921 - 459.999	459.800 - 459.856
Cleanup of Petroleum Discharges	590.700 - 590.790	590.700 - 590.920
Site Assessment		
Notification of Release of a Pollutant	445A.345 - 445A.348	
Consultant Certification	459.970 - 459.9729	459.500, 459.535
Action Levels for Contaminated Sites	445A.226 - 22755	

b) Division of Water Resources (DWR) - Appropriates surface and ground water for beneficial uses. It also determines if adequate water rights are available to serve a proposed sub-division development**.**

Well Construction/Abandoned Wells - In order to protect Nevada's ground water quantity and quality, DWR regulates and sets standards for the drilling, plugging and abandonment of wells. Also establishes licensing procedures for well drillers.

c) State Lands

Programs and activities conducted by the Division of State Lands which are applicable to NPS pollution control include review and comment on programs and proposals which affect public land, developing appropriate land management policies for federal lands, assisting local governments in their land planning and land use regulation functions, acquiring environmentally sensitive lands in the Tahoe Basin, and obtaining irrigable agricultural land for settlement under the Carey Act. Administers Tahoe Bond Act of 1996 (and 1999?)

Activity Applications - The agency holds title to land underlying certain waters of the state, typically up to the ordinary and permanent high water mark, except at Lake Tahoe where the boundary is at an elevation of 6223 feet. Work which requires authorization includes bank stabilization, bridges, floating structures, dams, outfall structures, dredging, sand and gravel bar removal, utility crossings and pipelines. A legal description of the land, Site plans, maps,

supporting documentation and proof of financial responsibility must be submitted with an application. A permit fee and a public notice process may also be required.

d) Division of Forestry (NDF)

The Division of Forestry is charged with protecting 8.7 million acres of non-federal forest, range and watershed land from fire and serious environmental degradation. The Division provides technical assistance to landowners on forest management, and administers a nursery program from which trees are supplies for greenbelts, environmental restoration and other conservation projects. The Division, through the Department of Prisons Conservation Camp Program supplies crews for a variety of activities including resource conservation and restoration projects.
Stream Zone Variance - Required for work near streams, in forested areas on non-federal lands. This includes channels with only intermittent flow. NDF also conducts threatened and endangered species reviews for federally-funded watershed projects on private land.

Permits - Requires Burn permits for the disposal of slash and debris. Certificates must be obtained for converting timberland resources to some other use. All logging permits require the use of best management practices to prevent or reduce nonpoint source pollution.

Seedbank Program - maintains supply of native and adapted seeds for revegetation efforts, especially for fire rehabilitation.

e) Division of Water Planning (NDWP)

State Water Plan - Guide to the development, management and use of the state's water resources.

Water Education for Teachers - Oversees the state's activities for this national program which provides water resource training for teachers**.**

Conservation Grant Program - The 1999 Legislature created a program within the Division of Water Planning fro the granting of funds for water conservation projects for all types of use, including agricultural and municipal. Increased water use efficiencies resulting from this program could reduce nonpoint source pollution contributions.

f) Division of Conservation Districts

The Division and the State Conservation Commission (SCC) assist the State's 29 local conservation districts in the development and implementation of their programs for the conservation and development of renewable natural resources. In addition, the collaborating entities conduct resource inventories and appraisals, evaluate existing resource programs, and develop alternative proposals for future resource programs; new programs include providing

assistance to the Tahoe Bond Act Program and taking and active role in riparian area management.

The Division of Conservation Districts provides leadership in the implementation of Nevada's Coordinated Resource Management and Plan (CRMP) Memorandum of Understanding, which was signed by the heads of five federal and five state resource agencies. It also assists local conservation districts in the implementation of Nevada's regulations to control water pollution from diffuse sources. Agricultural conservation plans are continually revised to include the best management practices for controlling pollution on each farm and ranch. Assistance is also given to local communities in the development of ordinances and other techniques to control soil erosion and water pollution resulting from storm runoff. The emphasis of conservation districts programs is on voluntary compliance and individual technical assistance. The Division of Conservation Districts has worked with the Nevada Division of Environmental Protection to update the Nevada Handbook of Best Management Practices.

g) Division of Wildlife (NDOW)

The Division of Wildlife was established to preserve, protect, manage and restore the wildlife resources of Nevada. NDOW consists of six divisions and three regions. The Board of Wildlife Commissioners was created to establish policies and regulations for the protection, propagation, restoration, transplanting , introduction and management of wildlife in the state. The goals of NDOW are to: 1) maintain all species of the State's wildlife and their habitats for their intrinsic and ecological values as well as their direct and indirect benefits to man, 2) provide for the diversified recreational use of the State's wildlife resource, 3) provide for an economic contribution from the wildlife resources in the best interests of the people consistent with the long-term welfare of these resources, and 4) provide for scientific, educational and aesthetic uses of the State's wildlife resources.

Environmental pollution, including nonpoint source pollution of water, degrades wildlife habitat and restricts production and propagation and is, therefore, inconsistent with the goals and objectives of NDOW. NDOW can offer technical, financial, legal and educational assistance in NPS pollution management programs and projects.

B.2. Nevada Department of Agriculture (NDOA)

Pesticides - NDOA has authority to regulate pesticide use in Nevada through the mandates of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Nevada Pesticides Act. Ground water monitoring has been in place since 1991 and focuses on established agricultural areas. The draft State Pesticide Groundwater Management Plan was published in April 1999.

B.3. Nevada Department of Human Resources (NDHR)

a) Health Division

Bureau of Health Protection Services

- Permits the construction of individual septic systems with capacities less than 5000 gallons/day
- Subdivision review
  - evaluates historical land use and current zoning
  - evaluates soils if septic systems are to be installed
  - requires monitoring if groundwater is to be used as water supply
- Source Water Assessment Program

B.4. Nevada Department of Transportation (NDOT)

The goals of NDOT are to assure a comprehensive, energy efficient, multi-modal transportation system consistent with social, economic and environmental objectives and one which provides mobility and service for citizens of the State of Nevada, the public and consumers. The achievement of these goals requires monumental efforts in planning, construction and maintenance of roadways in the state. While these activities are extremely important to the economic development of the state, construction and maintenance activities, and mere existence of such extensive structures have impacts on the surrounding environment. As with all major construction activities, NDOT is required to implement best management practices designed to control runoff and the release of pollutants to surface water and groundwater of the state. NDOT's environmental section ensures that Department projects comply with state, federal and local environmental regulations and evaluate the environmental impacts of Department activities. NDOT is active in major wetland creation and enhancement projects to mitigate the effects of highway construction on wetland areas of the state.

C. Local and Regional Programs

C.1. Nevada Ecosystem Advisory Team (NEAT)

NEAT was formed in 1993 to improve communication and collaboration among various groups and agencies concerned with natural resources in the State. By teaming up, participants are able to share information, staff, funding and other resources for more efficient management of Nevada's ecosystem. The Vision for NEAT is: "To provide for coordinated ecosystem-based leadership among federal, state, and local organizations, with local leadership and education, to enhance and sustain Nevada natural and economic resources."

NEAT includes members from the following agencies: Nevada Division of Environmental Protection, Nevada Division of Conservation Districts, Natural Resources Conservation Service, Nevada Association of Conservation Districts, Nevada Division of Water Planning, US Bureau of Reclamation, US Bureau of Land Management, Nevada Division of Water Resources, Tahoe Regional Planning Agency, Nevada Cooperative Extension, Nevada Division

of Forestry, Nevada Farm Bureau, Nevada Biodiversity Initiative, US Fish and Wildlife Service, US Forest Service, Nevada Division of Agriculture, US Environmental Protection Agency, Nevada Division of Wildlife, Rural Economic Community Development Service, Nevada-Tahoe Conservation District, US Army Corps of Engineers, USDA Agricultural Research Service, US Bureau of Indian Affairs.

Examples of the activities in which the group is involved:
1) *Environment Education Resource Directory* -- a guide to agencies and groups in Nevada which promote conservation education.
2) *Nevada Biodiversity Initiative* -- NEAT collaborates with the University of Nevada's Biological Resources Research Center to provide data about ecosystem-related projects throughout Nevada.
3) *Grants and Funding* -- the group reviews 319(h) proposals in conjunction with NDEP.
4) *Permits* -- NEAT works as a forum to assist individuals and groups with information concerning projects affecting Nevada's watersheds. NEAT is also working to develop documents explaining permit requirements, sources of funding and technical assistance availability.

C.2. Utah Nevada Arizona Water Quality Forum (UNA)

In November 1997, Nonpoint Source Program representatives from the states of Utah, Nevada and Arizona met with BLM personnel in St. George, Utah to discuss coordinated watershed management in northern Arizona and adjacent portions of the Colorado River basin in Utah and Nevada. Monthly meetings continued and the participants list grew to include representatives from other federal agencies, local government entities and one Indian tribe. The group is currently working toward accomplishing an action plan developed around several goals and its mission statement: to provide a forum for stakeholders of the Colorado River and its tributaries from Lake Powell to Lake Havasu, to promote partnering based water quality efforts to support holistic watershed management.

C.3. Conservation Districts

Conservations Districts are legal sub-divisions of state government that administer programs to conserve natural resources. They are self-governed by locally elected supervisors who establish priorities and set policy. They promote implementation of demonstration projects, Best Management Practices and public out-reach and educational programs. They also enter in partnerships with NDEP in the development and establishment of Coordinated Resource Management Plans (CRMPs) and hiring watershed coordinators. Conservation Districts are currently sponsoring several CRMP/watershed management plans in the State, such as the Walker River CRMP, the Steamboat Creek Watershed Restoration Plan, the Upper Carson CRMP and the Middle Carson Watershed Restoration Plan. Currently, there are 28 Conservation District in the State.

C.4. Lake Tahoe Basin

The Tahoe Regional Planning Agency (TRPA) is the regional land use and environmental resource planning and regulatory agency for the Tahoe Region, operating under the authority of the Tahoe Regional Planning Compact (94 Stat. 3233). It regulates all activities in the Lake Tahoe Region which may affect attainment and maintenance of the nine environmental threshold carrying capacities. Threshold areas include water quality, air quality, soils, wildlife, fisheries, vegetation, scenic quality, recreation, and noise.

TRPA is also a designated area-wide planning agency under section 208 of the Clean Water Act. Programs in the Regional Plan include the Individual Parcel Evaluation System (IPES), Soils and Land Coverage, and Stream Environment Zones (SEZ). Amendments to the 1981 Tahoe 208 Plan are certified by the State of Nevada and California and approved by EPA; the plan was updated November 30, 1988 primarily to include the IPES program.

TRPA is charged with the management of water quality in an environmentally sensitive and highly used area. As a result, TRPA has developed numerous innovative programs addressing NPS pollution, employs a variety of implementation mechanisms, and coordinates with cooperating federal, state and local government agencies and public/private interest groups.

TRPA is developing the Environmental Improvement Program for the Lake Tahoe region (EIP), which evolved from the two main capital improvement programs in the 208 plan, the Capital Improvement Program (CIP) for erosion and runoff control and the SEZ Restoration Program. The EIP strategy is to achieve the environmental threshold carrying capacity standards required by Public Law 96-551 and adopted for the Tahoe Region in 1982 by TRPA. It is designed to accomplish, maintain or exceed multiple environmental goals through an integrated proactive approach. The strategy relies on partnerships with all sectors of the community: private, local government, state government and federal government. The EIP contains sections on participating entities, project capital needs, cost estimates, and project, program and study descriptions for each environmental threshold area, including water quality. A finance plan for the EIP is currently being completed. TRPA's objective is to move EIP toward an electronic format with GIS capabilities and real-time user access.
In addition to regulatory and non-regulatory programs, the 208 plan provides for a monitoring program to evaluate water quality in the Basin and the effectiveness of the Regional Plan. The monitoring program calls for scientific monitoring of water quality and programs designed to protect and restore water quality, establishing a science advisory panel, annual reporting on the implementation of the monitoring program and overall monitoring results and a five-year comprehensive review of the monitoring program, performance targets achievements, and program effectiveness. Revisions to the program are to be made to ensure attainment and maintenance of water quality standards.

NDEP considers the NPS pollution control programs and policies, implementation mechanisms and schedule, and monitoring and review programs set forth in TRPA's 208 Plan to be a comprehensive, well coordinated and implementable program for effectively managing NPS

pollution in the Tahoe Basin. In order to avoid unnecessary duplication of effort, NDEP hereby adopts by reference elements of the Water Quality Management Plan for the Tahoe Region pertaining to NPS pollution control and management. NDEP acknowledges that the Plan is of high quality and intends to continue to maintain an active, cooperative and supportive role in regulatory and monitoring programs in the Tahoe Basin.

Preparation for the 1997 presidential visit to Lake Tahoe required the formation of numerous partnerships among the states of Nevada and California, and various federal and local agencies and non-government entities. The Nevada NPS Program was active during the preparations leading up to the president's visit, including participation in the Water Quality Issues Workshop held on June 18, 1997. The NPS Program currently participates in several interstate partnerships which grew out of the presidential forum including the Tahoe Bond Act Technical Advisory Committee, the Tahoe Water Quality Working Group, the Tahoe Source Water Assessment and Protection Program and the Lake Tahoe Basin Watershed Assessment. A central theme unifying virtually every natural resource-related partnership in the Tahoe Basin is the implementation of the Tahoe Regional Planning Agency's Environmental Improvement Program.

C.5. Truckee River Watershed

The Washoe County 208 Water Quality Management Plan was originally approved in 1978 and has undergone three revisions. Under an agreement dated April 9, 1991, Washoe County and the Cities of Reno and Sparks established that Washoe County should perform the duties of coordinating and managing services related to wastewater treatment, water supply, flood control and storm drainage and the protection of the Truckee River water quality. In 1991, Washoe County commissioned a study of water supply, waste treatment and water quality. The results of this study are the basis for the third (and current) revision. Some of the main issues addressed in the third revision are: 1) identification of the needs of the population for wastewater treatment, sewer service boundaries and effluent disposal; 2) adoption of the final Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs) for the Truckee River; and 3) improvement of water quality conditions of the Truckee River system by reduction of urban point and nonpoint source pollutant loadings. Another issue addressed in the plan is the implementation of best management practices related to stormwater pollution runoff into the Truckee River.

The Truckee River and its tributaries provide water for numerous uses including municipal and industrial supplies in the Reno/Sparks area, irrigated agricultural and urban lands, power generation, and spawning for Lahontan Cutthroat Trout and Cui-ui. In addition, water from the Truckee River is diverted from the basin through the Truckee Canal to Lahontan Reservoir in the Carson River Basin, where it serves the Newlands Irrigation Project. Pyramid Lake, on the Pyramid Lake Paiute Indian Reservation, is the terminus of the Truckee River and is a major sport fishery. Water quality of the lake is intimately related to the quality of the Truckee River. Water quality and quantity issues in the Truckee River Basin are both controversial and complex, and involve diverse interested parties including several federal agencies, the States of Nevada and California, Washoe County, the cities of Reno and Sparks, the Pyramid Lake Paiute Tribe,

Sierra Pacific Power Co., Newlands Project irrigators and individual users and consumers.

The State and 13 other parties are involved in the resolution and implementation of the Truckee River Operating Agreement (TROA). The proposed agreement, when resolved, will address, among other provisions, the protection of the endangered species of Cui-ui Lakesucker (*Chasmistes cujus*) and the improvement of water quality in the lower Truckee River and Pyramid Lake. The proposed agreement is also serving as a catalyst for the development of several watershed-wide activities: a comprehensive monitoring program, the development of TMDLs, and a greater integration of nonpoint source concerns in the overall planning for the watershed.

In 1995, the Nevada Legislature passed legislation which created the Regional Water Planning Commission. This Commission developed the 1995-2015 Comprehensive Regional Water Management Plan for Washoe County. The purpose of the Regional Water Plan is to provide the region with an outline of how water will be managed to meet the needs of citizens into the future. Major components of the plan are identification of future water supply and wastewater facilities, regional flood control and drainage projects, and development of a conservation program.

C.6. Carson River Watershed

The Carson River 208 Water Quality Management Plan (March 1982) provides an assessment of the Carson River by river segment and related recommendations for addressing pollution problems. There are discussions on several topics: land use patterns, population distribution, water quality impairments, etc. This document was developed by NDEP and provides a basis for the three Carson River Sub-Watershed Management Plans.

For several years, the Nevada Division of Environmental Protection has supported watershed management in each of the three sub-watersheds which comprise the Carson River basin. Conservation District-led CRMP groups are active and working toward implementation of their respective restoration goals. In 1996, the Upper Carson group, in coordination with NDEP and stakeholders, developed the *Upper Carson River Watershed Management Plan* which provides guidance for its efforts. It contains a comprehensive list of watershed issues in addition to goals and recommended actions to address each issue. The other groups are working with more streamlined plans.

In 1998 a coalition of interested parties held a two-part conference to explore the possibility of integrating watershed management efforts throughout the entire Carson River basin. Conference results indicated that a broad-based, locally-led watershed management team approach was desirable. The Carson Water Sub-conservancy District (CWSD) stepped forward and offered to lead the effort. To date, the CWSD has convened a steering committee, developed a purpose statement for integrated watershed management, held one stakeholder meeting to identify issues, and established several working groups to address the stakeholder's issues. One main goal of the CWSD and the steering committee is to develop an integrated watershed management plan for

the entire Carson River basin.

C.7. Clark County

The Clark County 208 Water Quality Management Plan (March 1997) was developed in two parts: one addresses the rural areas of Clark County and the other addresses Las Vegas Valley, where larger communities are located. The main thrust of the rural area document is the disposal of waste water - individual septic systems, waste water treatment facilities or disposal of waste water; the document also includes recommendations. Several areas were assessed by the Clark County Sanitation District.

The Las Vegas Valley document (March 1997) is a revised version of the 1990 208 Water Quality Management Plan and it addresses the following issues: 1) the effects of regional growth and development on waste water flow projections and in waste water treatment needs; 2) revision of the storm water permit to a more inclusive nonpoint source contribution; 3) the development and implementation of the Las Vegas Wash Wetlands Park; and 4) integrate and coordinate the planned projects and activities to ensure that water resources are protected.

The Clark County Wetlands Park Master Plan was develop by Clark County Parks and Recreation, Clark County Comprehensive Planning and a consortium of consulting groups, and federal, state, local and private entities. Construction of the park will be phased over the next 10 to 15 years to include several erosion control improvements to arrest severe erosion, provide water quality treatment and create or enhance wetlands habitat along the Las Vegas Wash.

Due to water quality concerns in both the Las Vegas Wash and Lake Mead, NDEP established the Lake Mead Water Quality Forum (LMWQF) in early 1997 to create an open and public forum for he discussion of water quality related issues. The Forum's mission is to support the protection of human health and the environment and to preserve and improve the water quality of the Las Vegas Wash , Bay and Lake Mead.

In 1998, the Water Quality Citizens Advisory Committee, established by the Southern Nevada Water Authority (SNWA), recommended that SNWA serve as the coordinating entity to identify and bring together stakeholders to develop a comprehensive management plan for the Las Vegas Wash. The Las Vegas Wash Coordinating Committee (LVWCC) was formed in response to that recommendation. The LVWCC then established several study teams to help accomplish its mission of evaluating all facts, issues and concerns regarding the Las Vegas Wash in order to develop and implement a practical, comprehensive approach for managing the Wash in a timely manner. The LVWCC interacts freely with the LMWQF and plays a key role in implementing the Wetlands Park Master Plan.

C.8. Walker River Watershed

NDEP sponsored watershed management group, implementing erosion control projects, weed management projects, and other nonpoint source problems. The group is under the leadership of

a watershed coordinator. Several efforts are being coordinated in this watershed, besides the projects mentioned above: development of water quality standards for the Walker Lake, revision of water quality standards for the river, TMDLs (only nonpoint sources in this watershed), water quality issues in the lake, which a terminal lake for the watershed and serious erosion problems throughout the watershed.

The Walker River Basin Technical Network is sponsored by the Division of Water Planning. It is organized to share information between government agencies, environmental groups and local stakeholders and to identify the most effective methods to solve basin resource problems.

C.9. Non-Designated Area

Non-Designated Area 208 Water Quality Management Plan (May 1992): the remainder of the State (excluding Carson River basin, Washoe and Clark Counties and Lake Tahoe basin) is classified, for planning purposes, as a "non-designated area". Although this area is the geographical majority of the State, it includes a small portion of the population, and two main rivers: the Humboldt and the Walker. Although the northern portion of the Colorado River is included here, it is scarcely populated. As a consequence, for planning purposes, only the Snake Basin, and the Humboldt and Walker rivers are addressed as separate entities within the 208 plan. NDEP is in the process of updating the Humboldt and the Walker rivers NPS assessment reports.

The State has identified the following potential future water quality problems in the non-designated area of the State:

-- overgrazing of riparian areas which significantly contributes to erosion and elevated levels of TSS, TDS, turbidity and TP;
-- mining and construction storm water runoff practices which subject soils to accelerated rain and wind erosion;
-- petrochemical surface and ground water releases and the possible impacts to surface waters;
-- septic system failures and possible impacts to surface and ground waters;
-- discharges from sewage treatment facilities and potential impacts to surface and ground waters;
-- underground injection of contaminants and potential impacts to surface and groundwater;
-- exportation and importation of ground and surface waters within the State;
-- eutrophication and increasing salinity of lakes and ponds;
-- recovery of threatened and endangered aquatic and riparian organisms;
-- reclamation of wetlands and riparian sites.

D.Private and Non-profit Organizations (involved in nonpoint source and water quality issues):

1) Twenty to One - range and habitat rehabilitation in Central Nevada
2) Ducks Unlimited - partner in the Las Vegas Wetlands Park Project, other involvement in habitat preservation

3) Truckee River Yacht Club - advocates water quality protection and proper land uses for the Truckee River; activities include tree plantings, cleanups, river restoration, lobbying on behalf of the river and public education .
4) League to Save Lake Tahoe
5) Sierra Club
6) Nevada Land Conservancy
7) Great Basin Land and Water
8) Elko Community

VII. Federal Consistency

The federal consistency provisions of section 319 of the CWA authorize Nevada to review federal financial assistance programs and development projects for their effect on water quality. If Nevada determines that an application or project is not consistent with the State Nonpoint Source Management Program and notifies the federal agency of its concerns, the agency must make efforts to accommodate the State's concerns, or explain its decision to not make accommodations, in accordance with Executive Order 12372. Additionally, section 313 of the CWA requires federal agencies having jurisdiction over property or facilities, or engaged in activities which may result in water pollution, to comply with State and local water pollution control regulations and authorities to the same extent as any non-governmental entity. Section 319(b)(2)(F) of the CWA requires the State to identify in its NPS Management Program those federal assistance programs and development projects for which it would like to review individual applications and projects for consistency with the goals and objectives of the NPS Management Program (Appendix B and C). Section 319(k), in turn, requires that EPA transmit the list developed pursuant to section 319(b)(2)(F) to the Office of Management and Budget and to the appropriate federal departments and agencies.

Section 319 directs the states to use the state inter-governmental review process pursuant to Executive Order 12372 which allows the establishment of a state clearinghouse process for review and comment on federal assistance programs and development projects. The State of Nevada has developed a State Clearinghouse within the Department of Administration and established a single point of contact (SPOC). It is the responsibility of NDEP to provide to the State Clearinghouse the list of federal programs and projects which it wishes to review. Nevada may update this list in its annual report to EPA or between annual reports through written notification.

Because approximately 87% of Nevada land is publicly-owned and managed by federal agencies, the federal consistency review process plays a significant role in the effectiveness of the State's NPS Management Program. The review of individual federal assistance applications and development program information is conducted by NDEP staff. Because of Nonpoint Source Program staff limitations, reviews are focused on nonpoint source impacts in priority watersheds, especially where section 303(d) listed waters exist. The review evaluates the extent to which a project is consistent with the goals and objectives of the State NPS Management Program and complies with water quality standards. Specifically, review criteria include the potential for an increase in pollutant loading to a water body for which water quality standards are not met (i.e. a section 303(d) listed water). For waters not listed, the review evaluates the potential for increased pollutant loading to the extent that a water quality standard will be violated. Criteria also include compliance with statutory and regulatory requirements for permits or other licenses.

The review process starts with the receipt of a document, a comment form and a return deadline from the State Clearinghouse. The package is date stamped, logged and routed to the appropriate NPS staff reviewer. Routing also includes other programs as appropriate, such as 401

certification, NPDES and UIC. Appropriate comments are entered on the form along with the date and reviewer's initials. The package is then logged as completed and returned to the Clearinghouse within the prescribed time frame. For significant or controversial reviews, the NPS Program provides comments directly to the federal agency, in addition to the SPOC. Inconsistencies are worked out with the federal agency in accordance with applicable MOUs. Where consistency issues reach an impasse, Nevada may request EPA assistance in pursuing a resolution.

Additional review processes which NDEP uses to ensure federal consistency include the National Environmental Policy Act (NEPA) process and A-106. NEPA environmental review process pertains primarily to federal development projects. NEPA requires federal agencies to determine the potential environmental impacts of their proposed plans and activities and to consider these impacts in their formal decision-making process. Environmental Assessments and Environmental Impact Statements are the primary vehicles for evaluating the impacts of major proposed programs and projects of federal agencies.

In addition to the formal review processes described above, Nevada engages in less formal review and coordination activities, typically involving MOUs. The NPS Program has negotiated memoranda of understanding with the BLM, USFS and NRCS. As an example, the NPS Program is working with the BLM, who is responsible for managing nearly 68% of the land within Nevada's borders. Livestock grazing is the most widespread BLM-regulated activity with which the NPS Program has concerns. In addition to formal review of management plans, permit applications and modifications, the NPS Program worked closely with the BLM in developing rangeland health standards and guidelines for all BLM grazing land in the state. This resulted in shared water quality goals consistent with NPS Program goals and State water quality standards. Additionally, NPS Program staff have been trained in the Proper Functioning Condition method for evaluating stream and wetland condition. This method is used extensively by the BLM in range evaluations. Training has facilitated information exchange and strengthened the relationship between the BLM and NDEP.

FEDERAL CONSISTENCY
SELECTED FEDERAL ASSISTANCE PROGRAMS

The following is a list of those Federal assistance programs for which the State of Nevada plans to review individual applications for consistency with the goals and objectives of the NPS Pollution Management Program.

Department of Agriculture

10.054 Emergency Conservation Program
10.062 Water Bank Program
10.063 Agricultural Conservation Program
10.064 Forestry Incentives Program
10.068 Rural Clean Water Program
10.069 Conservation Reserve Program
10.070 Colorado River Salinity Control
10.414 Resource Conservation and Development Loans
10.416 Soil and Water Loans
10.418 Water and Waste Disposal Systems for Rural Communities
10.419 Watershed Protection and Flood Prevention Loans
10.422 Business and Industrial Loans
10.423 Community Facilities Loans
10.500 Cooperative Extension Service
10.652 Forestry Research
10.664 Cooperative Forestry Assistance
10.901 Resource Conservation and Development
10.902 Soil and Water Conservation
10.904 Watershed Protection and Flood Prevention
10.906 River Basin Surveys and Investigations
10.910 Rural Abandoned Mine Program

Department of Commerce

11.300 Economic Development - Grants and Loans for Public Works and Development Facilities
11.304 Economic Development - State and Local Economic Development Planning
11.427 Marine Sanctuary Program

Department of Defense

12.100 Aquatic Plant Control
12.104 Flood Plain Management Services
12.105 Protection of Essential Highways, Highway Approaches and Public Works
12.106 Flood Control Projects
12.108 Snagging and Clearing for Flood Control
12.109 Protection, Clearing and Straightening Channels
12.110 Planning Assistance to States

Department of Housing and Urban Development

14.125 Mortgage Insurance - Land Development and New Communities
14.218 Community Development Block Grants/Entitlement Grants
14.219 Community Development Block Grants/Small Cities Program
14.223 Indian Community Development Block Grant Program
14.227 Community Development Block Grants/Secretary's Discretionary and/Technical Assistance Program
14.228 Community Development Block Grants/State's Program
15.214 Non-Sale Disposal of Mineral Material
15.252 Abandoned Mine Reclamation Program
15.501 Distribution System Loans
15.502 Irrigation Systems Rehabilitation and Betterment
15.503 Small Reclamation Projects
15.605 Fish Restoration
15.611 Wildlife Restoration
15.916 Outdoor Recreation - Acquisition, Development and Planning

Department of Transportation
20.106 Airport Improvement Program
20.205 Highway Planning and Construction

General Services Administration
39.002 Disposal of Federal Surplus Real Property

Small Business Administration
59.031 Small Business Pollution Control Financing Guarantee

Environmental Protection Agency
66.418 Construction Grants for Wastewater Treatment Works
66.433 State Underground Water Source Protection
66.600 Environmental Protection Consolidated Grants Program Support
66.700 Pesticides Enforcement Programs
66.801 Hazardous Waste Management State Program Support
66.802 Hazardous Substance Response Trust Fund (Superfund)
66.804 State Underground Storage Tanks Program
66.805 Underground Storage Tank Trust Fund Program

Department of Energy
81.065 Nuclear Waste Disposal Siting
81.092 Remedial Action and Nuclear Waste Technology

Research Programs
10.001 USDA- Agricultural Research - Basic and Applied
10.652 USDA - Forestry Research
10.200 USDA - Grants for Agricultural Research

10.202 USDA - Cooperative Forestry Research
10.203 USDA - Payments to Agricultural Experimentation Stations Under Hatch Act

Information Sources
15.801 DOI - Cartographic Information
62.001 TVA - National Fertilizer Development
62.005 TVA - National Resources Development
66.423 EPA - Water Pollution Information - STORET

Educational Outreach Programs
10.500 USDA - Cooperative Extension Services
15.602 DOI - Conservation Law Enforcement Training Assistance
47.066 NSF - Teacher Preparation and Enhancement
47.067 NSF - Materials Development and Informal Science Education
47.068 NSF - Research, Studies and Program Assessment
47.069 NSF - Research Initiation and Improvement
47.070 NSF - Computer and Information Science and Engineering

Research Programs
15.221 DOI - Research In Public Lands Management
15.308 DOI - Grants for Mining and Mineral Resources and Research Institutes
15.604 DOI - Fishery Research
66.502 EPA - Pesticides Control Research
66.504 EPA - Solid Waste Disposal Research

Information Sources
10.903 USDA - Soil Survey
11.002 DOC - Census Bureau Data Products
11.003 DOC - Census Bureau Geography
11.400 DOC - Geodetic Surveys and Services
11.650 DOC - National Technical Information Service

VIII. Conclusion

A. Efficient and Effective Implementation of the NPS Program -- (Key Element #8)

Nevada develops, as part of the grant application process, annual work plans, which provide a framework for the year-to-year implementation of the NPS program. Programmatic aspects of each 319(h) grant agreement are the responsibility of the NPS program staff, while fiscal accounting duties are handled by NDEP's Office of Fiscal and Personnel Management (OFPM). Financial accounting for expenditures in all grant budget categories including individual project contracts, non-federal match contributions and reporting of financial status are performed by OFPM in a timely and accurate manner. Programmatic duties described in the workplans are accomplished at either the State-wide level or at the watershed level. The following is a description of how these activities are implemented, in an efficient and effective manner:

A.1. State-wide Implementation Procedures:

Several activities take place at the state level: the watershed prioritization process, performed in 1998 as a component of the Clean Water Action Plan, education and public out-reach efforts, the building of partnerships, and the selection of 319(h) projects.

In Nevada, the watershed prioritization process was accomplished using the following strategy: a) creation of a small inter-agency technical group to develop criteria for each category and for prioritizing category 1; b) holding meetings with several stakeholders and partners to categorize and prioritize the 72 eight-digit hydrologic units in the state; c) drafting a summary report, considering comments and finalizing the report. The process resulted in a list of all watersheds within the state, prioritized for restoration efforts. Thirty five watersheds and sub-watersheds (at the eight-digit hydrologic unit level) were determined to be of the highest priority and the best potential for successful restoration. These watersheds will be targeted for implementation of restoration efforts by NDEP and other collaborators.

Public outreach and education efforts are conducted in three main areas: general water-related and nonpoint source education, through school programs; agriculture-related issues, with the collaboration of Cooperative Extension educators and NRCS field personnel; and urban-related issues, with the collaboration of University professors and Conservation Districts coordinators.

The Nevada Ecosystem Advisory Team (NEAT) provides a mechanism for building partnerships, for designing effective approaches to addressing issues as they arise and for annually reviewing the 319(h) project proposals.

A.2. Watershed Implementation Procedures:

Projects to address NPS pollution at the watershed level are implemented in priority watersheds identified in the state-wide watershed assessment. Projects for which the NPS Program provides financial assistance require a contractual agreement including a detailed scope of work,

deliverables, time frames, and a detailed budget. The scope of work must provide for public input, identify a project coordinator and provide for a watershed management document. The document must include measurable goals and objectives, time frames and a mechanism for implementing recommendations. Every effort is made to assure that each project is well planned, and implemented as planned.

A.3. Data Management Systems

Nevada keeps a database system to track demonstration projects and related financial information. It also updates EPA's GRTS database on a regular basis.

Nevada is in the process of creating nonpoint source related GIS coverages. Several agencies are sharing data (Washoe and Clark County, NRCS, UNR, other State and local agencies, etc.). A small number of watershed modeling efforts are also underway. The NPS program expect to begin using watershed modeling in the next five years.

A.4. NPS Monitoring Program

Several agencies monitor water quality in Nevada on a routine and/or project specific basis; those data are used to produce several reports and assessments, which are used for Nonpoint source assessments. Nevada is developing project-specific and BMP specific monitoring.

B. Feed-back Mechanisms -- (Key Element #9)

Nonpoint Source Program Review and Evaluation Process

The purpose of the review and evaluation process is to take a broad-perspective look at the program and assess the achievement of the state's short-term objectives and progress toward meeting its long-term goals. This process provides for confirmation of program elements which are on-track in addition to identification of components in need of revision.

In addition to programmatic annual reports, focused on achieving SMP milestones, BMP implementation and progress toward achieving water quality standards for impaired waters, Nevada intends to implement a five-year, rotating, watershed-based review and evaluation process. Nonpoint source implementation activities in one or two different river basins are to be evaluated each year for four consecutive years so that each basin is evaluated once every four years. During the fifth year a statewide review will be conducted.

Basin evaluations will incorporate ambient water quality monitoring trends; new, or changes in impairments as shown on the 303(d) list; changes in land use or other basin characteristics which constitute new sources or threats; and any new research. Information may be derived from recent State's Assessment Report updates, or may form the basis for an update if one is necessary. Additionally, an evaluation will be made of success measures for individual projects implemented in the watershed, including project-specific water quality monitoring. Evaluations

will be discussed with NEAT, who will provide advice regarding the relative priority of significant NPS categories within the basin and recommendations for adjustments in the NPS implementation strategy. Results will then be presented to watershed-based stakeholder groups and made available to the public for review and comment prior to finalizing the evaluation. Results will then be incorporated into a revised strategy for implementation which will be reflected in annual NPS workplans.

The review and evaluation during the fifth year will treat the program as a whole, incorporating success measures of statewide implementation efforts, such as a NPS category-focused public education program; a compilation of basin evaluations over the prior four years; the state's 305(b) report and progress in achieving water quality standards reflected in the 303(d) list; and milestone achievement reported in annual reports. Results will be used to revisit the statewide watershed assessment and prioritization report, and to evaluate overall progress against the NPS Program's long-term goals and short-term objectives. The five-year review will involve input from NEAT and public input. Results, findings and recommendations will be incorporated into a State Management Program update after the fifth year, thus completing a five-year evaluation and feedback loop.

Future revisions to the State Management Plan will be conducted with broad public involvement, through at least two workshops, one in Northern and one in Southern Nevada, and other opportunities for public input.